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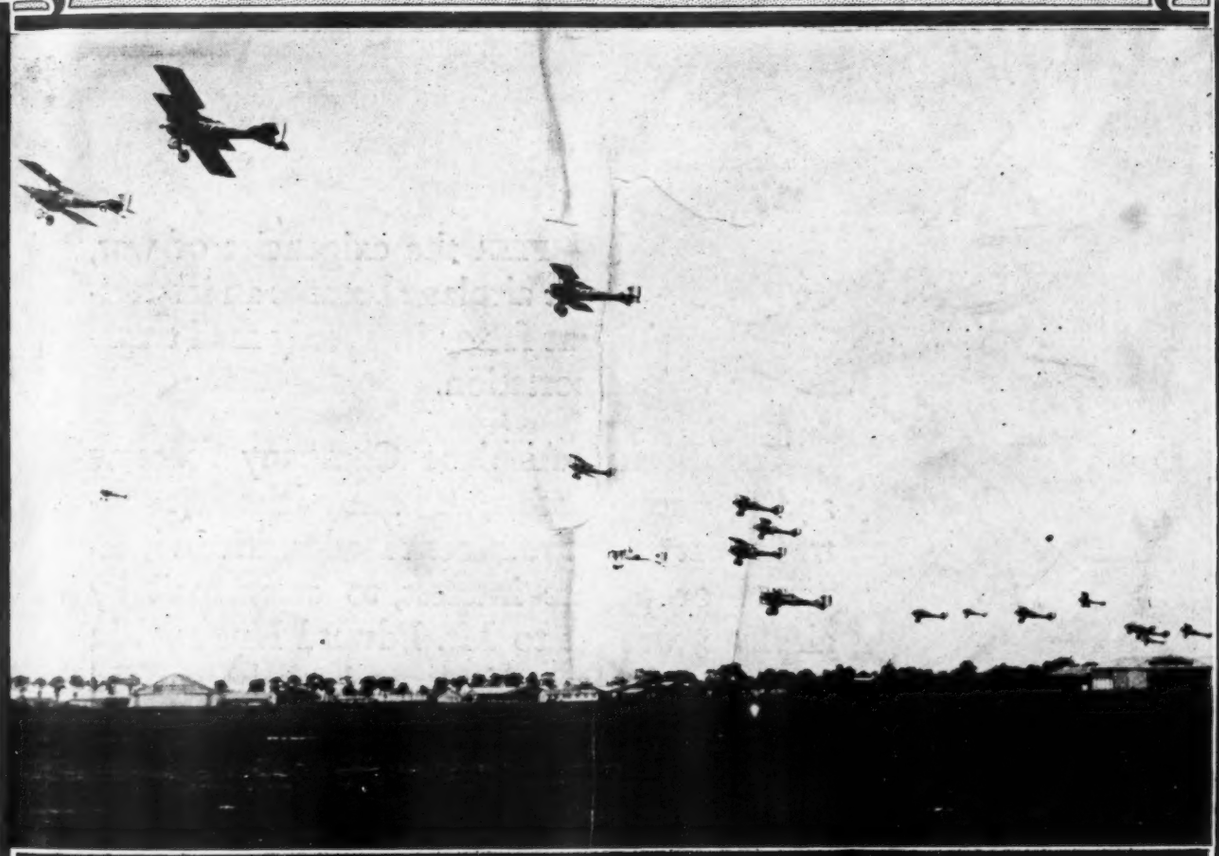

Eighteen French military planes taking off from Le Bourget Field, France

VOLUME XXIII

NUMBER 17

Special Features

The Ryan-Siemens Engine
Wright Field is Dedicated
Journeying With the Boeing Air Mail

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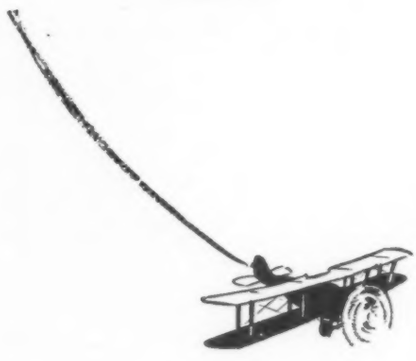

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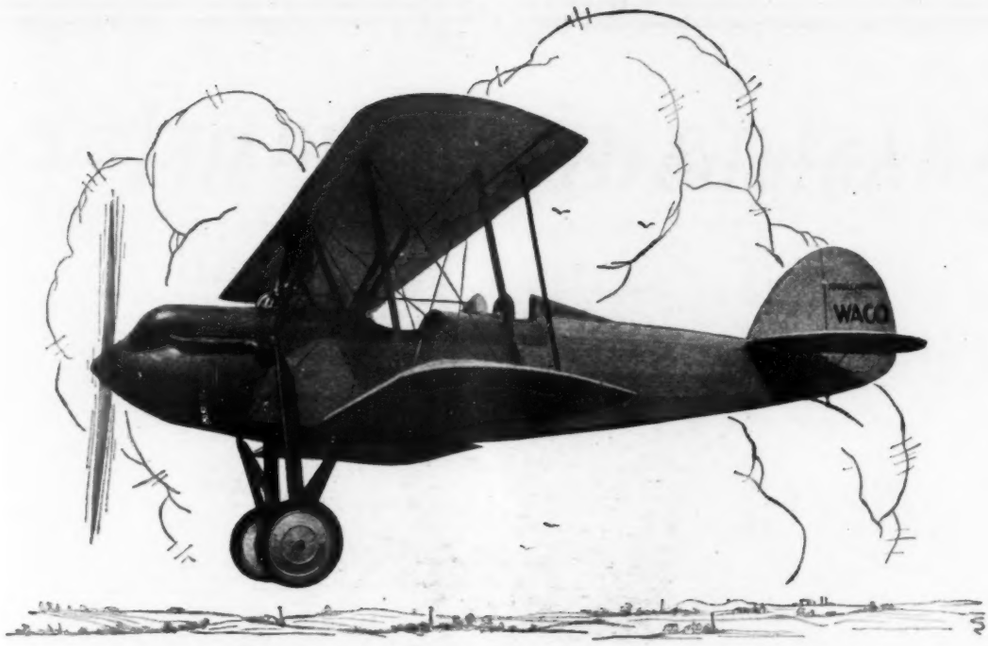

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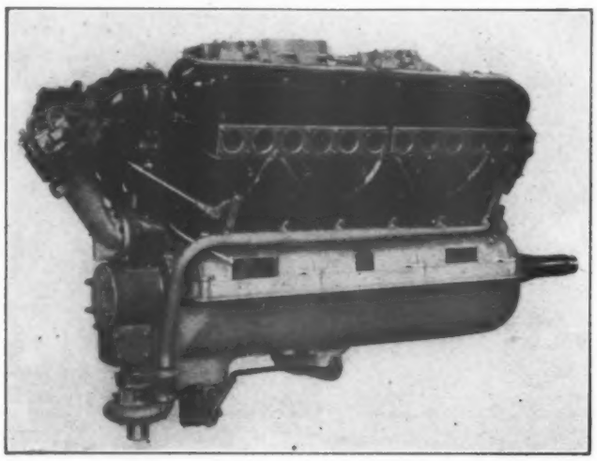

THE CURTISS V-1550 MOTOR

What the four entries did at Spokane September 24th

Winners of the Liberty Engine Builders Trophy Race

First, Lt. H. A. Johnson, USA, in Curtiss Falcon
Average Speed 170 MPH

Second, Lt. G. A. McHenry, USA, in Curtiss Falcon
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Winners of Free For All Pursuit Ship Race

First, Lt. Eugene Batten, USA, in Curtiss Hawk
Average Speed 201 MPH

Second, Lt. A. J. Lyon, USA, in Curtiss Hawk
Average Speed 189 MPH

When the now-famous Curtiss D-12 motor of 435 horsepower was introduced to the aeronautical industry in 1923, it immediately raised the standards of design for high-performance military aircraft. Its tremendous power, small frontal area, and low weight per horsepower made possible the development of the remarkable American fighting planes which today are acknowledged as the world's finest.

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The V-1550 again raises the standards in military aircraft design

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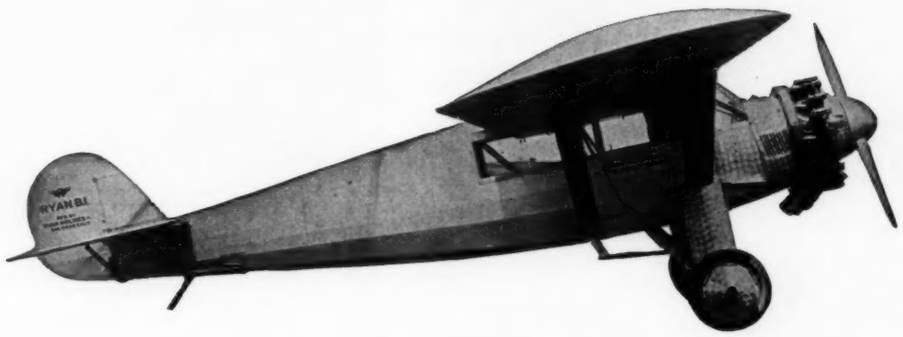

Cruising Range 750 miles

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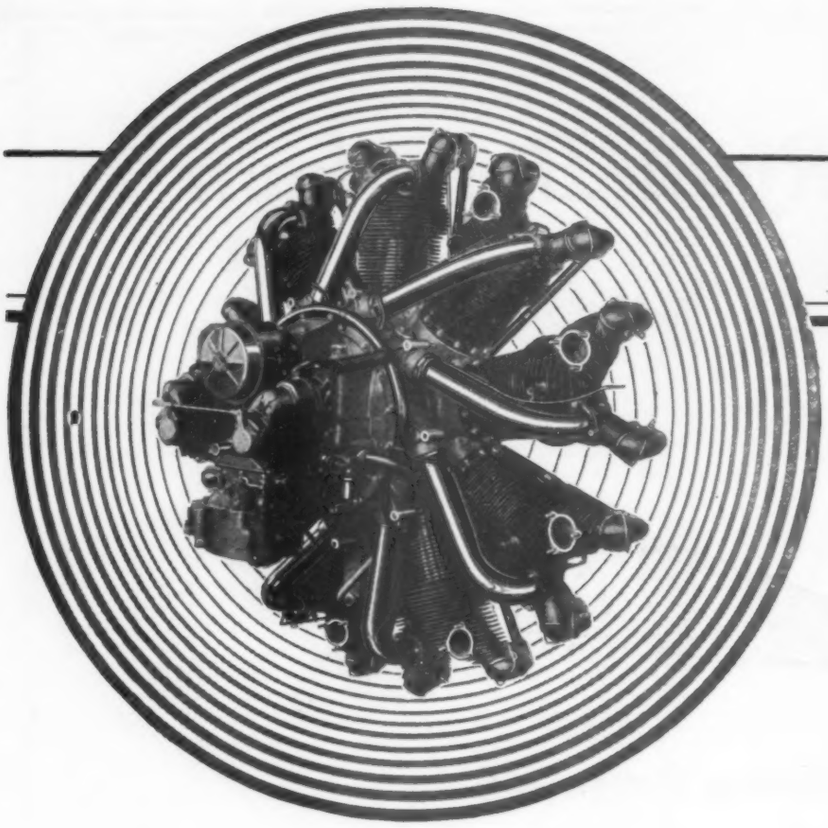

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One piece Master Connecting Rod and Built-up Crankshaft.

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Grouping of all accessories at the rear of the engine.

Complete enclosure of all working parts.

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at 1900 R.P.M.
Weight 650 lbs.

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at 1900 R.P.M.
Weight 750 lbs.

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THE ENGINEERING INDEX

(Registered United States, Great Britain and Canada)

Mechanical Engineering Section

THE ENGINEERING INDEX presents each month, in conveniently classified form, items descriptive of the articles appearing in the current issues of the world's engineering and scientific press of particular interest to mechanical engineers. At the end of the year the monthly instalments are combined along with items dealing with civil, electrical, mining and other branches of engineering, and published in book form, this annual volume having regularly appeared since 1906. "In the preparation of the Index by the engineering staff of The American Society of Mechanical Engineers some 1200 technical publications received by the Engineering Societies Library (New York) are regularly reviewed, thus bringing the great resources of that library to the entire engineering profession.

Photoprint copies (white printing on a black background) of any of the articles listed in the Index may be obtained at a price of 25 cents a page. When ordering photoprints identify the article by quoting from the index item: (1) Title of article; (2) Name of periodical in which it appeared; (3) Volume, number, and date of publication of periodical; (4) Page numbers. A remittance of 25 cents a page should accompany the order. Orders should be sent to the Engineering Societies Library, 29 West 39th Street, New York.

AIRPLANE PROPELLERS

Design. Some Notes on the Design of Airscrews, F. S. Barnwell. Instn. Aeronautical Engrs.—Jl., vol. 1, no. 5, May 1927, pp. 56–77 and (discussion) 77–83, 6 figs. Deals with simple blade-element theory; means for determining effect of body on tractor air propeller and effect of air propeller on body; metal propellers.

Geared-Down. Geared Down Propellers and Efficiency of Commercial Airplanes, R. M. Mock. Aviation, vol. 22, no. 22, May 30, 1927, pp. 1137–1140. Better performance attained in spite of increased weight.

Metal. Metal Propeller Development, E. G. McCauley. Aviation, vol. 22, no. 22, May 30, 1927, pp. 1127–1130 and 1144, 10 figs. Extensive test work responsible for present efficiency of metal propellers for aircraft use; detachable blade; composition of aluminum alloy.

Sections. Characteristics of Propeller Sections Tested in the Variable Density Wind Tunnel, E. N. Jacobs. Nat. Advisory Committee for Aeronautics—Report, no. 259, 1927, 16 pp., 18 figs. Results obtained, besides providing data for design of propellers, should be of special interest because of opportunity afforded for study of scale effect on family of airfoil sections having different thickness ratios.

AIRPLANES

American. The Aircraft Industry at Bolling Field. Aviation, vol. 22, no. 20, May 16, 1927, pp. 1033–1038, 7 figs. 65 aircraft manufacturers exhibit at all-American aircraft display; review of exhibits indicates progressive state of industry; aircraft manufacturers.

American Eagle. The American Eagle Commercial Plane. Aviation, vol. 22, no. 23, June 6, 1927, p. 1240, 2 figs. Outstanding design that involves several individual and distinct features which reduce maintenance; direct steel-tubing aileron control is positive, control wires, pulleys and accompanying friction being wholly eliminated; tail skid can be removed to re-wrap shock cord by removing two bolts which are easily accessible.

Bach. The Bach C-S-1 Cabin Plane. Aviation, vol. 22, no. 22, May 30, 1927, p. 1135. Three-passenger enclosed-cabin machine designed for private owner; simplicity and ruggedness are features; powered by 120-hp. super Rhone radial air-cooled engine.

Bellanca. The History of the Columbia. Aviation, vol. 22, no. 26, June 27, 1927, pp. 1430–1431, 2 figs. Facts and figures on construction, performance and records of the New York-to-Germany plane.

Bonney Seagull. Bird-Like Design Features Bonney "Seagull." Aviation, vol. 22, no. 24, June 13, 1927, pp. 1290–1291, 3 figs. By reproducing same aerodynamic characteristics as those of gull, L. W. Bonney expects to give his plane similar performance; independent movement of wing sections; entire wing of duralumin; dual side-by-side control.

Canadian Industry. The Canadian Aircraft Industry. Aeroplane, vol. 32, no. 19, May 11, 1927, pp. 534, 543–544, 546 and 548, 5 figs. Types of planes developed in Canada.

Chance Vought. Chance Vought Products Maintain High Standard of Quality and Performance. Aviation, vol. 22, no. 24, June 13, 1927, pp. 1278–1279. From original VE-7 model to new "Corsair" which holds four world's records, soundness of design has been governing factor; Corsair is designed around

THE ENGINEERING INDEX appearing in the August 1927 issue of Mechanical Engineering, a monthly journal published by the American Society of Mechanical Engineers, described 56 articles pertaining to aircraft, aeronautics, etc. The articles were from "the current issues of world's engineering and scientific press." Below is an analysis of their origin:

AVIATION	24
Other American aeronautical publications	0
Foreign	20
Bulletins of N.A.C.A., etc.	5
American Publications other than aeronautical	7
Total	56

43% of all the articles pertaining to aircraft, aeronautics, etc., were from AVIATION.

67% of all these articles published in America were from AVIATION.

100% of these articles taken from the American aeronautical press came from AVIATION, or in other words, no other American paper dealing with aeronautics contained articles described in The Engineering Index.

The above example is significant. It is just another indication that AVIATION is the American authority dealing with the design, construction and operation of aircraft.

AVIATION is the only American aeronautical publication written exclusively for those in the aeronautical industry, and others seriously interested in aircraft and their operation.

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Orioles

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1150

OX5 engines factory rebuilt - - $350.00
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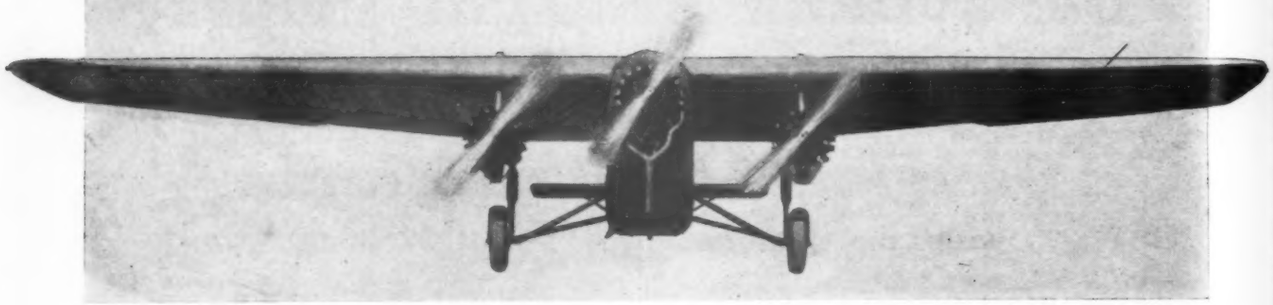
Putting the brakes on depreciation



WHAT depreciation should be charged against the capital investment in an airplane? That depends on the airplane. One well-known operator "writes off" his investment in three years. As it would seem unreasonable to expect wood, fabric and glue to be dependable longer than three years, this would appear a reliable figure for that type of airplane.

But you can't apply any such figure to the Ford tri-motored transport for the reason there is no wood, no fabric and no glue in its structure. It is built entirely of metal—the metal is non-rusting and if properly cared for resists corrosion even in salt air.

Ford all-metal monoplanes were first placed in scheduled service a little more than two and a half years ago. They've flown practically every day since. Yet the first planes have never needed to be replaced, are in the same service today, and look like new planes coming out of the factory. They're even shinier than new planes—for washing and wiping has given the metal a high polish. It would be difficult, perhaps impossible, to determine any amount of depreciation through use and wear. These planes are as airworthy as the day they first took off.

Another source of depreciation to be considered is the possibility of total loss through fire or other accident. The fire hazard does not exist in the Ford plane. The metal won't burn. And the gasoline tanks are placed in the wings, away from engines, passengers and crew. It's almost impossible to start a fire, and nothing to burn if it could be started.

"Other accident" of course means a crash. Given a competent pilot there are only three causes of plane crashes—engine failure, plane failure, and weather. Powered by three Wright Whirlwind engines, total engine failure is unknown to the Ford monoplane. The use of metal throughout gives every part of the ship a known strength with a safety factor which precludes the possibility of failure of wings, fuselage or tail. Excess power provides for emergency flying conditions. Brakes, shock absorbers of most advanced design, wide wheel tread and, again, all-metal construction, provide for emergency ground conditions. The only weather conditions which can endanger the Ford monoplane are sleet, fog and cyclones—conditions the competent pilot avoids.

A three-year rate cannot be applied to the Ford tri-motored transport. Depreciation cannot be determined until a Ford monoplane wears out. In the intervening years, capital can feel assured it cannot find a lower rate, nor an investment promising greater safety of principal, in aircraft.

STOUT METAL AIRPLANE CO. DIVISION OF Ford Ford Motor Company DEARBORN MICH.

THE STOUT METAL AIRPLANE CO.
Division of Ford Motor Company
Dearborn, Michigan

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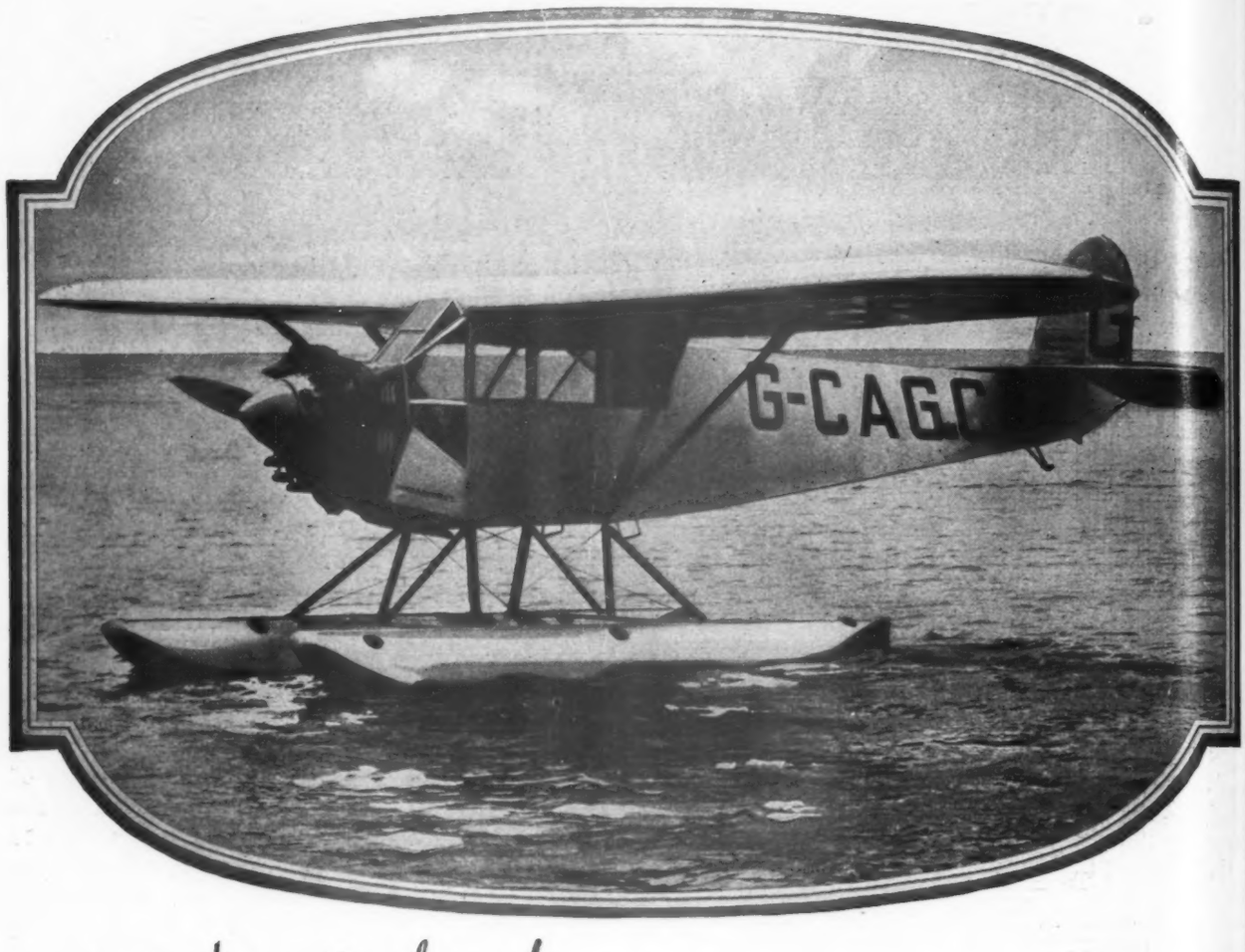
With the Editor

On page 998 of this issue of AVIATION is to be found an announcement of the formation of the Ryan Aeronautical Corp., of San Diego, Calif. This organization is to be headed by T. Claude Ryan, founder of Ryan Airlines, Inc., and its business will be that of manufacturing and distributing in the United States, under the trade name of Ryan-Siemens, the famous Siemens-Halske engines now manufactured at Berlin, Germany.

The article which quotes Mr. Ryan's views also gives a description of the engine which is made in three models—five, seven and nine cylinders. Incidentally a Siemens-Halske engine is now being used by Miss Thea Rasche in her "Flamingo" biplane. A description of Miss Rasche's plane will appear in an early issue of AVIATION.



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The record of Wright "Whirlwind" Engine durability, reliability and safety in private flying is just as outstanding as those made in several recent overseas flights, and in over 4,635,000 miles of military and commercial flying during 1926.

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AVIATION

The Oldest American Aeronautical Magazine

Vol. XXIII | *OCTOBER* 24, 1927 | No. 17

What Did It Prove?

WITH THE receipt of the news of the mid-ocean rescue of Miss Ruth Elder and George Haldeman by a Dutch tanker, another mark is chalked up on the unsuccessful side of trans-Atlantic flying and the same old question comes to the minds of airman and layman alike—what did it prove?

To begin with, it did not prove the Stinson-Detroiter monoplane or the Wright Whirlwind engine incapable of crossing the Atlantic stretch, for the plane has accomplished the feat once before and the engine four times. Newspaper reports state that the American Girl was forced to the water by engine trouble. The exact nature of the cause will probably never be known and judgment must be based on the past record of the Wright Whirlwind engine.

However, it would seem that the one great thing that this last trans-Atlantic attempt proved was the great need of concentrated effort in the development of dependable radio communication between trans-oceanic planes and ships or land stations.

It is reported that the American Girl carried a 14 lb. sending set capable of sending 50 to 75 mi. Yet, for over 24 hr. the world waited and hoped for word of the plane's progress. But none came, and when word did finally arrive it was via a vessel on the water and not the plane.

What happened to the American Girl's radio, as well as to the radios of other planes whose fates are mysterious history, is a question that warrants intensive investigation as far as it is humanly possible to do so. For, out of it all, may come new ideas and improvements which will eventually reduce the factor of danger attached to trans-oceanic flying by enabling the occupants of the plane to keep the civilized world informed of their position at all times.

The Scapegoat

WHENEVER there is an accident or trouble of some kind it is almost a universal tendency to try and shift the blame on to some one else. Since the Department of Commerce started licensing planes and pilots there has been a very decided tendency to shift the blame for accidents to the department. The fact that both plane and pilot were licensed has been used as proof that there could have been no negligence on the part of either the owner of the plane or of the pilot. This is manifestly unfair and may lead to very serious results.

The Department of Commerce has been assigned under the law the function of deciding whether planes were originally structurally sound and air worthy and also of conducting periodic inspections to see whether the planes are in need of extensive repair work so as to continue being fit to fly. The detailed, minute, daily inspection, which is so essential to safety, must be left to the operator of the plane himself. It is not at present, and it is hoped that it never will be, the function of government inspectors. Aircraft operators should not get into the habit of using the government inspection as a guarantee that a plane is in good condition. The question of pilots is really still up to the operator of aircraft. There are days when even the best fliers are not feeling well enough to fly and such matters can not be regulated by the Department but must be left to the direction of the operating companies.

If the policy of making the Department of Commerce the scapegoat for all accidents continues there is bound to be a most unfortunate political reaction. As a matter of self protection the department will be constrained to enforce its regulations to the letter of the law and there will follow a series of drastic rulings which will perhaps increase the safety of flying but which will also greatly hamper the free operation of aircraft.

Indirect Direct Advertising

A SPLENDID EXAMPLE of educational advertising as applied to the aeronautical industry is to be found in the campaign now being conducted by the Ford Motor Co. in several of the leading periodicals. The entire campaign is devoted to the task of making the American public "airminded", and frank mention is made of the fact that no attempt is being made to make direct sales of Ford airplanes, nor does the name Stout appear in the copy. However, the copy of the first ad tells of the number of miles flown over the Ford air routes, the freight amounts and total flying hours. And it is illustrated by a picture of a farm yard momentarily darkened by the familiar shadow of a Ford-Stout tri-engined transport passing over head.

The Ford Company is to be congratulated on what might appear to some as philanthropic efforts, but at the same time, other manufacturers should not feel that they cannot afford to do likewise. For, the Ford campaign is placing the name Ford before present and prospective airmen and air travelers, and in the final analysis, advertising, regardless of its type, is nothing more or less than an effort to create a desire in a person or persons to purchase something or some things which you have to sell.

The Ford campaign is a splendid achievement. It is educational and also indirect direct advertising, which, in time to come, will be styled under the heading of dealer advertising.

Journeying With the Boeing Air Mail

By GEORGE J. MEAD

Vice President & Chief Engineer
Pratt & Whitney Aircraft Co.

Unloading mail from a Boeing mail plane (425 hp. Wasp).

"PLANE COMING!" Thus came the cry as I sat in the superintendent's office at Omaha at one o'clock one morning in July. The plane came right up to the hangar door where its brakes stopped it as exactly as a motor car. Quickly then the night crew headed by "Doc" transferred the mail to the outgoing plane. Three trips of the hand truck were necessary to carry the 900 lb. of mail. While it was securely stowed away Frank Caldwell, the superintendent of the Eastern Division, was introducing me to Jack Knight, the pilot of the westbound plane. After he climbed in and ran up his engine, I entered the passenger compartment and we started. Taking off in the middle of the night with the aid of the flood light seemed simple, but the moment we were in the air we plunged into darkness and heat. On the ground it seemed comparatively cool after a day when the mercury stayed around 100 deg.

Once in the air, instead of enjoying a cool ride through the night air, it was necessary to close the windows to prevent the scorching blast from penetrating the cabin. At first everything seemed inky black, but gradually it was possible to make out objects on the ground. To take advantage of a tail wind, we flew at a very low altitude. Relatively few lights were visible on the ground except as we passed over an occasional town. A few revolving beacons could be seen along the way as well as emergency landing fields neatly outlined by border lights. We soon came to the North Platte River which was followed more or less all the way to North Platte, Neb. This point was reached in about 2 hr. 40 min. I had been so interested in watching the country beneath us that it first seemed as though there must be something wrong when Jack Knight throttled down and started to turn the plane. Almost immediately, however, the boundary lights of the field were visible, and then the big flood light came on, illuminating the field and buildings, as well as the river. As soon as the plane came to rest the night crew serviced it with gasoline and oil, and took off the mail for North Platte. After a 15 min. stop during which we chatted with Mr. Kinsey, in charge, we were on our way again, headed for Cheyenne, Wyo.

The moon came up during this part of the journey, so that some more detailed idea of the country could be secured. It seemed as though we were flying over a huge checkerboard. Each little square represented a 160 acre homestead, which was one quarter of a government section of 640 acres. The fences of these farms run absolutely east and west, and north and south, which is of great assistance to the pilots. As we approached Cheyenne some of the Rocky Mountains could be seen to the south, in the direction of Denver, Col. At the same time the neatly laid out farms gave way to prairies, on which were seen herds of cattle, and occasional ranches. I can truthfully say that I never had had such a smooth ride in the air as Jack Knight gave me from Omaha to Cheyenne. Hour after hour the plane flew on without a bump, and, when it became light enough to see, without the wings ever changing their relation with the horizon. Cheyenne, with an altitude of 6400 ft., was reached about five o'clock. This city is approximately 500 mi. west of Omaha. Due to its altitude the early morning air is quite frosty. The mail was transferred here to another plane

which was waiting with the engine idling, while Jack shared with me the sandwiches and coffee which he had brought from home.

Pilot Barker was scheduled for the trip to Salt Lake City, and took off in about 15 min. The country changed rapidly from prairies to hills and then mountains, as we left Cheyenne. Perhaps half an hour out we passed over Sherman Hill, which has the highest airway beacon in the world, its altitude being 8600 ft. During three of the winter months its keeper is out of communication with the world. After leaving the hump behind us, which is the local name for Sherman Hill, we flew alternately over prairies and mountainous country. Towns were seldom seen, only an occasional ranch. This part of the journey is far from monotonous, as the country is changing rapidly in every direction. Occasionally the Union Pacific Railroad was in sight, and, as the day wore on, automobiles could be seen on the Lincoln Highway. Both means of transportation certainly seemed slow to us in the air travelling, as we were, more than twice as fast.

Land at Rock Springs, Wyo.

We finally climbed another ridge, and glided down to Rock Springs, Wyo., which has a field at 6400 ft. From the name I expected to see a very delightful place. As a matter of fact, the field consists of a portion of the prairie covered with sage-brush and sand, with one lone hangar. The town of Rock Springs was nowhere to be seen. As I learned later, it was to the south of us, perhaps eight or ten miles away. The planes are re-fueled at this point as a safety measure, since it sometimes takes three hours to cover this part of the journey.

Across the field to the westward runs a serated cliff, the summit of which is perhaps 2,000 ft. above the field. It was on these cliffs in the winter that a mail plane landed within a few feet of the top in a snowstorm. In the spring horses were able to draw the plane to the plateau at the top of the cliff, from which it was flown away. On account of the altitude the planes land very fast, but due to the good brakes with which they are equipped, are able to stop in a remarkably short distance. As we taxied down the field to take off, I wondered how quickly the "Wasp" could lift the eight or nine hundred pounds of mail, together with the plane and its occupants. Barker turned the plane around and headed directly for the hangar, and up we went, without any apparent effort. These sage-brush landing fields demonstrate the remarkable qualities of the Boeing oleo landing gear with which the mail planes are equipped. On a prairie like this each clump of sage-brush collects a mound of sand around it, making a field of innumerable bumps, with the result that it takes a really remarkable gear to stand the landing and taking off of such a big plane.

No Trouble With Landing Gear

To date I have never heard of any trouble being experienced with these gears, and from personal experience know they absorb tremendous bumps and prevent the plane from bouncing. From Rock Springs to Salt Lake City the country is almost continuously mountainous, particularly if a compass course is followed. From subsequent flights I noticed that there are stretches of more or less flat country in the shape of valleys and canyons between the hills, if a more or less roundabout course is followed. The coloring on this part of the trip is most remarkable, especially under the bright sun of the morning. After we had been out about an hour, and had been more or less steadily rising, we came to the summit of the Watsatch Range. This range reaches an elevation of ten or eleven thousand feet. It certainly is a sight to be remembered when the plane starts downward after crossing the ridge, and you see below a tremendous plain with mountains in the background, at the foot of which is Salt Lake, and directly below the City of Salt Lake, with its green trees and lawns strongly contrasted against the brown of the desert. I suppose we had a five or six thousand foot drop to the landing field, which is just the other side

A section of the mountain country as seen from a Boeing mail plane.

of the city. Up to that time I had not realized how high we were.

Upon our arrival at the field I was met by Wilbur Thomas, and was certainly glad to see him, after nine hours in the air. Mr. Hubbard, the vice-president in charge of operations at the Boeing Air Transport, flew over from San Francisco and met me at dinner that night. A mere six hundred and twenty-five mile journey in the air over the Sierra Nevada mountains for a dinner engagement is nothing to the officials of the air mail.

During the two days that I was at Salt Lake City I had an opportunity to observe the operation of the Boeing Air Transport Co. from headquarters, as the actual operation of the line is handled from this point. Mr. Hubbard and Mr. Colyer, the general superintendent, are both located here. Mr. Hubbard is himself a veteran pilot. After the war, during which he served as a flying instructor in the Army, he carried the first international air mail from Seattle to Vancouver. He still operates this line, which perhaps encounters more fog than any other. The first plane he purchased for this run was a Boeing seaplane, which is still in service after six or seven years of use. Mr. Colyer was formerly general superintendent at Washington of the government-operated air mail. Having worked up to this position through the ranks, he has had unequalled experience in this new field. Besides his duties as general superintendent, he handles the activities of the Western Division. Frank Caldwell is Eastern Division superintendent, and is located at Omaha. He also was an Army pilot during the war, and started his experience with the air mail at its very beginning on the New York to Washington run.

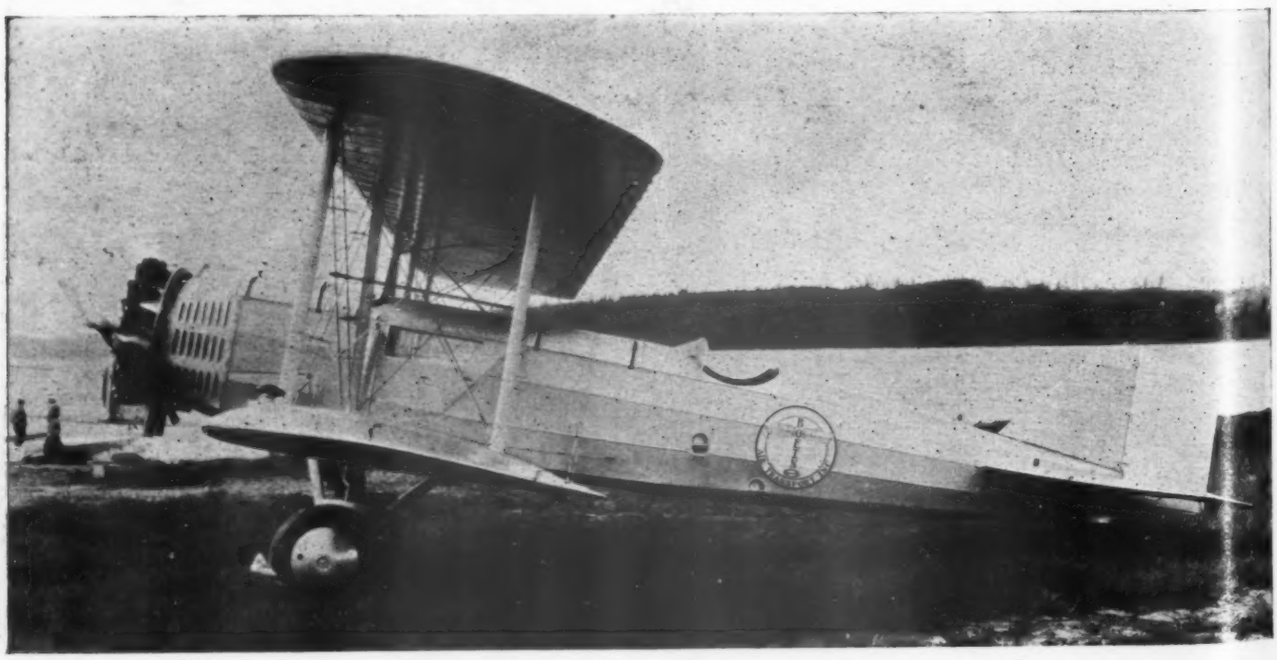
Personnel of About 20 Pilots

There are some twenty pilots, many of whom have been with the air mail since its inception in 1918. As a result, they have undoubtedly had more experience, and traveled more miles in the air, than any other group in the world. It is no wonder that with such experienced personnel that the operations of the Boeing Air Transport started off and continued without any interruption, the service established by the government and taken over by them. The moving spirit behind the Boeing Companies is W. E. Boeing himself. Coming from a pioneer family at first engaged in lumbering in the Middle West, and later on the coast, it is no wonder that he sees visions and makes them become realities. It is understood that his lumbering operations are today by far the largest of any single operator on the coast. It is indeed fortunate that this new industry has the sincere backing of one so far-sighted and capable.

As already mentioned, the Boeing Air Transport took over the transcontinental mail from Chicago to San Francisco on July 1, 1927. At that time twenty-four new Boeing mail planes equipped with Pratt & Whitney "Wasp" engines were put in service. One trip is made each way each day, so that between 3800 and 4,000 mi. of flying are done each 24 hr. At most stops the field is municipally owned, and hangars provided by the city for the air mail. The Department of Commerce is now operating beacon lights from Chicago to Cheyenne and radio communications over the entire run, which were previously operated by the air mail. To get a better idea of the magnitude of the Boeing operations at the present time it is understood that some half million dollars is invested in the equipment.

Fly Westward With Pilot Huking

My westward journey was continued with Pilot Huking. His plane was especially equipped with a canopy top, and other facilities. After riding with him I don't blame him for his additional comforts, as he has a six to seven hour turn at the stick. We left about eleven o'clock, and flew toward the famous copper mines across the valley; then, turning to the right, passed over a considerable portion of Salt Lake. We flew over, around and by numerous mountains and sandy plains, or prairies, finally reaching Elko. From what I could see of this place, it was rather small, and surrounded by prairie, with mountains in the background. The altitude is 5500 ft. After a brief stop we continued on, over some larger ranges, and then down across Carson Sink, toward Reno. This part of the journey was most uncomfortable on account of the heat, which was in the neighborhood of 110 deg., even though we were very high in the air. Finally a snow-capped mountain range, barred our way. This turned out to be the Sierra Nevadas, and nestled down in the foothills I saw Reno, the far-famed city of divorces. After a brief stop here to re-fuel the plane, Huking took off and circled the field once, then headed straight toward the snow-capped peaks in front of us. We climbed continually up a valley, first to the right and then to the left, from which we could see an adjoining mountain peak, Lake Tahoe, and be-



Side view of a Boeing mail plane (425 hp. Wasp)

neath us for 70 mi. was no landing field. Nothing but tall trees, jagged rocks, and ice and snow. The air became colder and colder, as we ascended, and finally, as the plane cleared the range by a couple of thousand feet, we were positively cold. In every direction were mountains, ahead of us, behind us, and on both sides.

The view from this altitude is so tremendous that it is hard to take it all in and appreciate its grandeur. With the plane headed down toward Sacramento, we certainly made knots, with the wires singing and the engine ticking away on the last stretch of its day's journey. In a relatively few minutes we had left the mountains behind us and were passing over fertile fields. As we descended, the heat became intense. It

Front quarter view of a Boeing mail plane (425 hp. Wasp.)

was hard to tell whether to keep the windows open or closed. There didn't seem to be much choice, although it seemed cooler with them closed than open. A Ford mail truck was waiting for us on the field at Sacramento, and its mail was soon transferred and we took off again toward San Francisco. Huking, realizing how uncomfortable I felt due to the heat, climbed to eight or ten thousand feet in an effort to cool us off. I certainly appreciated his kindness, and was able to see a good deal more of the country as a result. It was soon possible to see two waterways, which finally converged into San Francisco Bay. As we approached the bay, we started to descend, passing between Berkeley and Oakland. Ahead of us were little puffs of fog rising from the bay.

As we approached, these gradually forced us downward until we were relatively close to the water. Beneath us I could see a long trestle which reached out towards San Francisco. Since I couldn't see the other end, I thought at first there must be a bridge all the way across the bay, but found out afterwards that the water was relatively shallow, and by means of this bridge communication with San Francisco was made much more rapid, since the ferries had a much less distance to travel. More or less intimate association with ferry boats, ocean liners and piers seemed to be the order of the day, as we passed over the bay. Try as best I could to discover a landing field, none appeared ahead of us in the city, which seemed to flow down from the hills behind it.

Land Right on Water Front

Finally, to my great surprise, Huking put the ship down on a narrow strip of land between the concourse and the bay, right on the water front. It seemed to me like a one-way field, and far from satisfactory for such an important city as San Francisco. The mail I rode with had left Chicago 1900 mi. away at eight the previous evening. One plane took it to Omaha with a stop at Des Moines, the second to Cheyenne with a stop at North Platte, the third to Salt Lake City, with a stop at Rock Springs, and a fourth to San Francisco with stops at Elko, Reno, and Sacramento.

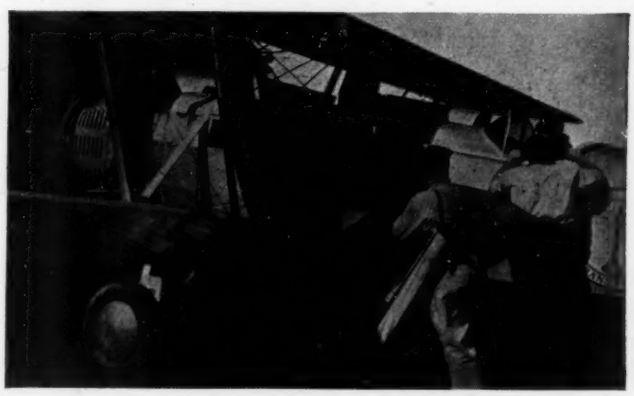
After 15 hr. in the air, I was glad to go with Mr. Heron, the traffic manager of the Boeing Company, to the Palace Hotel and clean up a little. After talking with Mr. Johnson, the president of the Boeing Transport Company, and Mr. Hubbard, I left again in about two hours for Seattle by train. After a forty hour journey to this point and a day's stay there, I returned to Salt Lake, again by train, a journey which took two nights and one day to complete.

I had begun to feel that there wasn't any thrill in flying with the mail, and that it was rather a slow and monotonous way to get about, after all. My two train journeys entirely cured me of this feeling. Of all the hot, dusty, uncomfortable ways of travelling, the railroad certainly takes the prize. For this reason I was very glad to take off again headed east behind a faithful old "Wasp", with Pilot Boonstra at the stick. Saying farewell to Messrs. Hubbard, Colyer and Maxwell, as well as our two men, Thomas and Greene, I headed home again with a sigh of relief. As we climbed over the Watsatch range, which had now become familiar to me on account of my three previous trips over it, I settled back to enjoy myself in cool of the late afternoon.

Thunder Clouds Force Plane South

This trip, however, was not destined to be as uneventful as I had serenely imagined it. We had not been long on our way when thunder clouds threatened us from the north, which gradually forced the plane southward, and off the regular airway. With great skill, Boonstra played hide and seek with the various storms, and kept us away from them until we had almost reached our destination, or at least it seemed so to me, since we had been out about four hours. Finally, the plane started to circle for a landing, and I saw beneath what I thought was Cheyenne, but instead of a well lighted field there was a single red flare. After we landed, I discovered that this was Laramie, Wyo., some 60 mi. away from Cheyenne. The weather over the "hump" was so thick that it was unwise to attempt to negotiate it. A telephone conversation with Shaver at Cheyenne developed the fact that it was very thick over there, and that the whole "hump" was blanketed with fog. The care-taker at this field helped us to fuel the plane, and then made us some very welcomed hot coffee. Since the weather did not improve, it was decided to truck the mail over the mountain to Cheyenne. As a result, I found myself, a little after eleven o'clock, riding through the fog and rain in a Chevrolet truck with a cow boy as driver, who carried a well-worn "45". Behind us was stacked the eastbound mail, worth heaven knows how much.

As we ploughed along over the road, which, I understand, reaches the highest point of any through road in the mountains, namely 8600 ft., I was enlightened by the fact that



Mail being loaded at Salt Lake on a west bound Boeing mail plane.

there were still almost all the kinds of wild animals in Wyoming, such as lions and wild cats, bears, etc. The only animals that didn't seem to be there were snakes, and that was because it was too cold for them up in the mountains. On account of the rain, mud and fog, our headlights were of little use, and it was hard to keep on the road. After we reached the highest point of land we started a wild ride down the other side, reaching Cheyenne at about one o'clock. Here I found Pilot Allison waiting to take the mail east. We took off almost immediately, trying to get through, although we had heard by wireless that the conditions east were

bad. The fog was so thick that we had to turn back almost immediately. The westbound plane was very late so we all decided to try to get a nap. This was not very easy, and as the radio operator seemed to be busy, I preferred to stay up and talk to him. We had several false alarms during the night, and finally agreed we were all hungry and must go down town and get something to eat. Upon our return, Collison started calling up the railroad, and I wondered if he was taking a reservation on a transcontinental train. Imagine my surprise when he asked the dispatcher what the weather was over the "hump". In a moment or two the dispatcher had called up all the railroad stations along the line for a hundred miles and reported the weather.

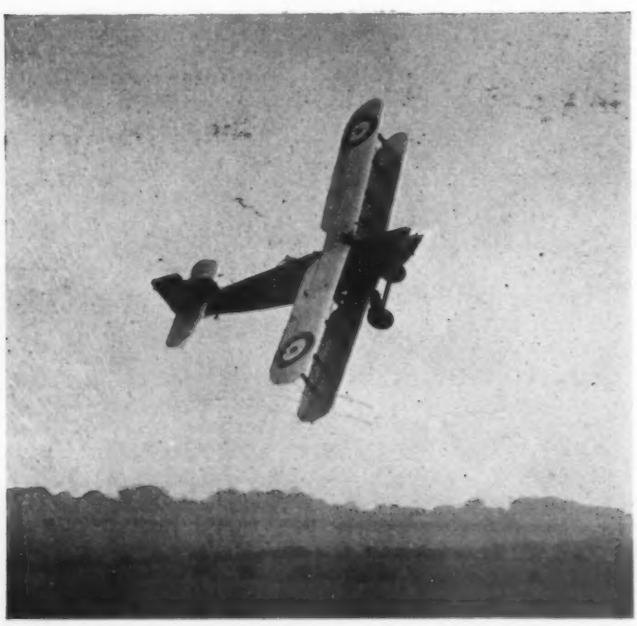
Try to Get Through Fog

I learned, as an interesting sidelight, that during a tremendous storm a few years back, which crippled the telegraph service on the railroad, that the air mail dispatched the trains for them by means of radio. "Slim" Lewis came in from Omaha while we were down having our breakfast, and reported that the weather was fine at Cheyenne, compared with any place else he had been. About eight o'clock Allison decided we could get under way, so we took off and flew in various directions trying to get through the fog bank ahead of us. Finally we made a landing on the prairie, and waited for conditions to improve. We finally got off and after various attempts Allison finally climbed above the clouds and we were on our way. For perhaps 150 mi. we did not see the ground. Nothing but a blanket of white clouds and fog. Overhead the sun shone brightly, although the people on the ground were certainly not aware of it. As we approached North Platte the clouds and fog began to disintegrate, so that we had occasional glimpses of the earth, which seemed very green, contrasted with the white of the clouds. Finally, we ran out of fog entirely, exactly on our course, and Allison flew along over the river trying to make the best time he could. After a brief stop at North Platte we continued on our way to Omaha, which we reached about half past two in the afternoon, instead of one o'clock that morning. It seemed like home-coming to me to see Frank Caldwell on the ground, with Hobbs of Stromberg, Eric Stohlstrom, and Bill Wheatley, "Heavy", and the rest of the gang.

This fleet of twenty-four Boeing mail planes, all equipped with "Wasp" engines, have covered approximately 400,000 mi. in the past three months. During the first two weeks' operation in July, several delays or stops due to engine difficulty were recorded. This difficulty came from overheating, largely due to minor installation troubles, all of which were soon remedied. Since this early period there have been no mechanical failures of the engines, although some of them have now passed 200 hr. Attention is called to the illustrated chart of August operations. In the words of our own Wilbur Thomas, who is assisting Boeing in the field, "the old 'Wasp' is doing her stuff."

Under the Post Office Department the engine equipment used for the transcontinental air mail was the Liberty engine which was obtainable from surplus Army and Navy war stock. The operations of Boeing Air Transport are of great interest, as they are employing not only new mail planes of their own design and manufacture, but modern air cooled radial engines, as well. The combination of veteran personnel and this modern equipment is bound to establish a new record of air transportation. The 400 hp. air cooled Wasp with its weight saving of almost 600 lb. over the 400 hp. water cooled Liberty, provides for this amount of additional mail. It is gratifying to know that the air mail poundage is steadily increasing. There is reason to believe that without a subsidy the Boeing Air Transport Co. will prove the business soundness of American air transportation.

On to Venice



In order to be present at the recent race for the Schneider Trophy, Sir Philip Sassoon, under secretary of state for air, flew from England to Venice in one of the new Fairey III. F. airplanes piloted by Flight Lieut. A. G. James Williams. The journey of 830 mi. was accomplished in 6½ hr. flying, an average of nearly 130 m.p.h. The return journey was commenced on Sept. 27 but bad weather conditions made a stop necessary at Turin. Sir Philip is now touring this country.

P.A.T. Planes Carried 300,000 Air Mail Letters in September

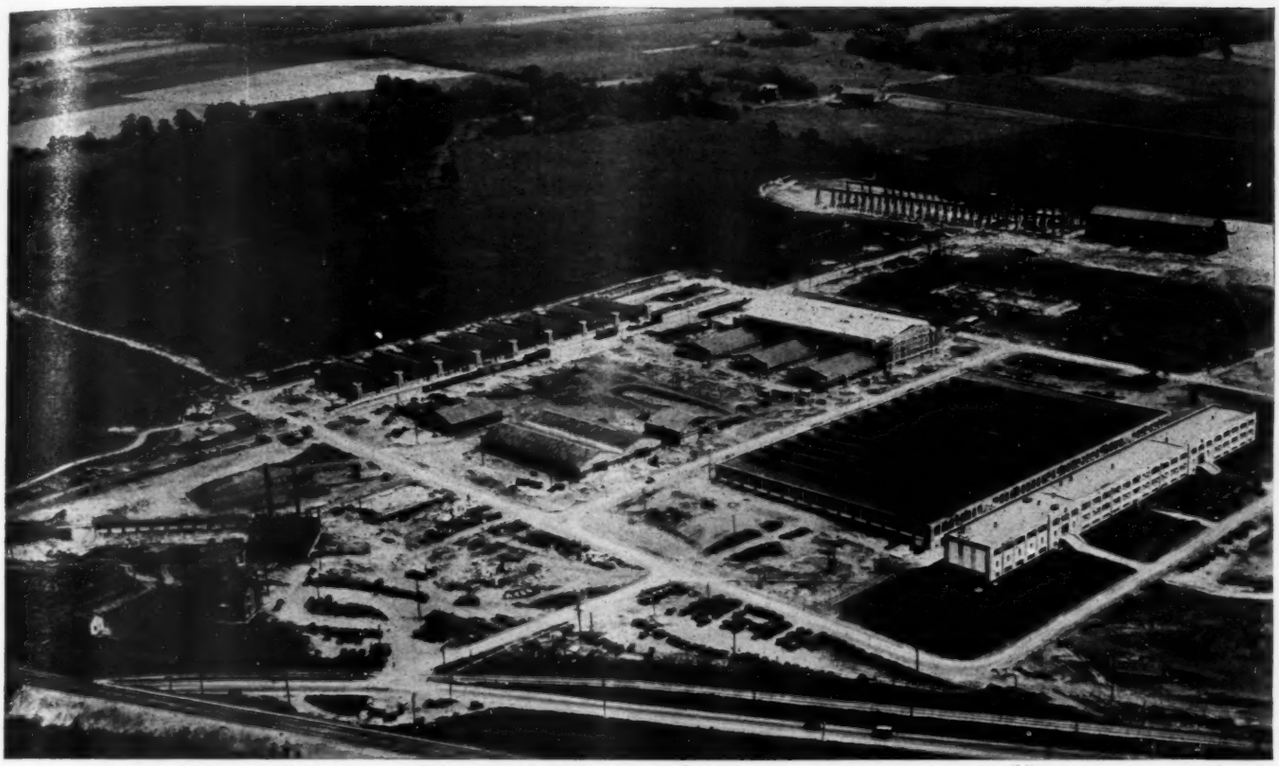
NEARLY 300,000 letters and parcels were sent by air mail between all coast cities in September, according to the monthly traffic report of A. K. Humphries, vice-president, Pacific Air Transport, made public recently. The total weight was 7365 lb., a gain over the preceding month of 565 lb., or eight per cent. plus.

Improved facilities for overcoming treacherous weather, so that fast schedules are kept despite fog, rain and sleet, is believed to account for the increasing patronage of the air mail service between coast cities. Extra planes are stationed at strategic points in southern California and the air mail is rushed to these planes when the airport is fog-bound.

To combat adverse weather in the Pacific Northwest, the report states, a specially-built motorcycle with side car, manned by a former race-driver, is held in readiness to speed the mail and connect with the southbound plane beyond the bad weather area.

Plan British Airship Line

ACCORDING TO the report of the American Consul at Melbourne, Australia negotiations are now in progress for the establishment of an airship service between England and Australia. The report states that a British Air Mission is now in Australia to advise the Australian Government with a view to inaugurating an airship service between England and the Commonwealth. Two possible routes for the proposed service have been mentioned. One is via India and thence turning south to avoid the Malay Archipelago and Java, and the other via South Africa. Each of the airships which it is planned to use will have a 5,000,000 cu. ft. capacity, a length of 739 ft. and width of 130 ft. They will carry 100 passengers, a crew of 50 and 10 tons of freight and mail. It is thought that they will be able to complete the trip from England to Melbourne in 10 days.



Aerial view of the buildings at Wright Field, Dayton, O.

Wright Field is Dedicated

Many Leading Army, Navy and Civilian Air Officials Attend the Ceremonies at Dayton, O.

THE DEDICATION of Wright Field, Dayton, O., which took place on Oct. 12 marked an important step in the progress of American aviation. From now on the Army experimental and procurement work will be housed in modern and adequate quarters instead of the temporary and ramshackle war surplus building which had been used at McCook Field. Many leading figures in both Army, Navy and civilian aeronautics attended the ceremonies, and in spite of the downpour of rain which marked the morning program there was a large attendance of civilians from Dayton and near by towns.

The morning was spent by the visitors in inspecting the new plant and in examining the excellent display of aeronautical materials and appliances which were housed in the laboratories building. A most instructive and well grouped exhibit had been arranged, showing photographic apparatus, bomb racks, machine guns, parachutes, skiis, etc. Large parties of school children visited the show and had various exhibits explained to them by courteous guides. One of the chief centers of attraction was the 'orientor' which is used to test out the capacities of prospective pilots. Many were allowed to try out their abilities in the control of the rolling chair and the results greatly amused the onlookers.

The actual dedication exercises took place at noon and were held inside. Brig. Gen. W. E. Gillmore, who is in command of the field, was the first speaker, and he brought out the significance of the change from the temporary quarters to permanent buildings as representing the Government's realization of the importance of experimental work. Col. W. E. Deeds who was largely instrumental in raising the funds which were used in the purchase of the land delivered a speech on behalf of the residents of Dayton and neighboring towns and presented the property to the Federal Government.

Gen. Mason M. Patrick and the Hon. F. Trubee Davison both made short addresses and were followed by Secretary of War Dwight F. Davis, who was the principal speaker of the day. After the speeches Orville Wright raised the American flag over the field and the official program being over, the guests were served a lunch in the administrative building.

In the afternoon the weather cleared and everyone proceeded to the old Wilbur Wright field to see the exhibition of planes and flying. In spite of the bad weather of the

morning a crowd estimated at over 10,000 gathered to see the aerial circus staged by Lieutenants James H. Doolittle, James T. Hutchinson and R. C. Moffatt. The John L. Mitchell Trophy Race, in which fifteen Curtiss pursuit planes and pilots from Selfridge Field participated, was the closing number on the program.

The process of moving from McCook Field has been going on for a considerable time. The move was made necessary for several reasons, the most important of which was that McCook Field being very near to the center of Dayton was

The Administration building at Wright Field.

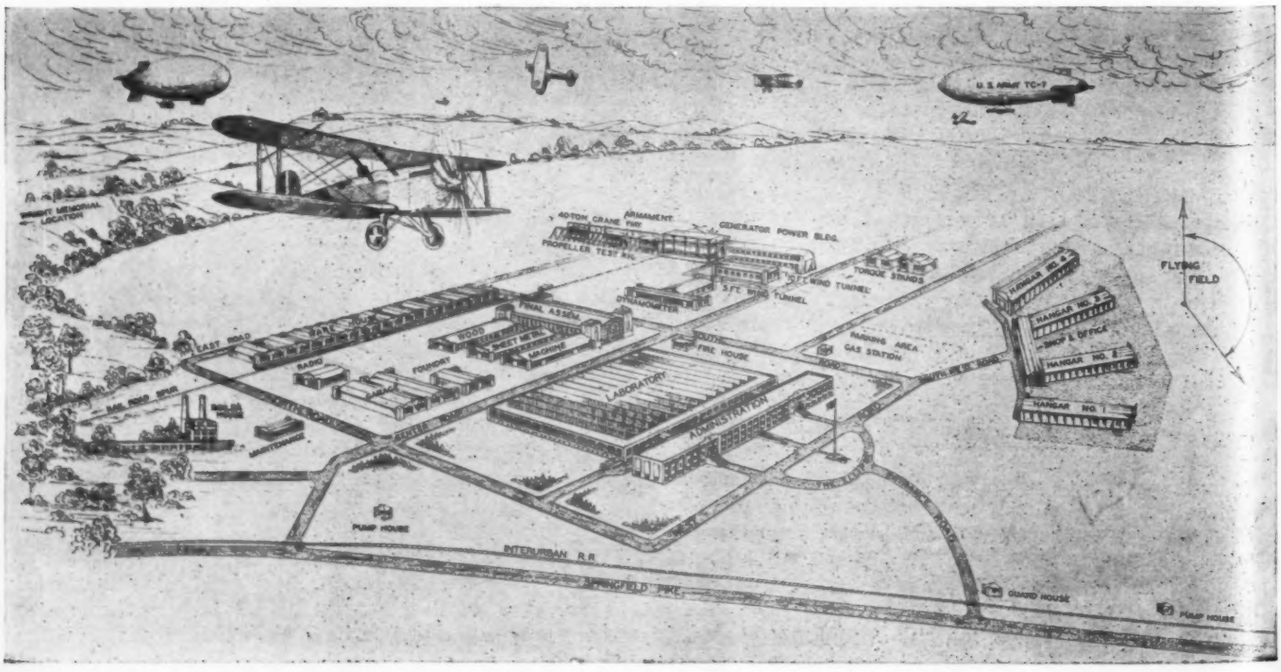
not sufficiently large for the safe testing of experimental aircraft. In addition to this the land was not owned by the Government but leased from the General Motors Co. The buildings having been put up very hurriedly during the war were not suitable for permanent occupation and the Government began looking around for a new site. Several locations, some near Dayton, and others in different parts of the country, were considered but in 1921 a group of residents of Dayton and surrounding towns decided that the experimental division should be kept in Ohio and they purchased 4,562 acres of land for $450,000 and presented it to the Government. The land was accepted and in 1925-26 Congress voted $1,500,000 for new buildings and the expenses of transfer. Further appropriations of $300,000 per year for a five year period were also arranged for.

The site chosen for the experimental station is between Dayton and the old Wilbur Wright field where the National Air Races were held in 1925. The latter site would probably have been chosen except that it is rather far out from town and in case of flood it would be inundated and therefore is not suitable for permanent buildings. The new field is about a mile square but it probably will not be in condition to do experimental flying from until next fall.

Work on the buildings and the immediate approaches to the buildings was started in May, 1925. What has been done so far represents the expenditure of the original appropriation of $1,500,000 and annual appropriations are now being drawn upon but this means that it will be another five years before the plant as originally planned will be completed and this delay naturally puts the Material Division under a very serious handicap. Personnel and material began to be installed in the new buildings in March of this year and the administrative part of the work is now being carried on from Wright Field. The dynamometer work, the wind tunnel work and the propeller testing is still being done at McCook Field, while the flight testing is being carried on at the old Wilbur Wright Field.

The new buildings are really not very much larger in area than those occupied at McCook but they are much more compact and better arranged and will tend to greater efficiency. The administration building, laboratory, final assembly and ware house are completed and in active operation while the propeller testing rig and the wind tunnel are well under way. No work has been done as yet on the hangars.

The procurement and business personnel is housed in the administration building which is 540 ft. long and 56 ft. wide. Just behind this is the laboratories building in which the dedication exhibit was located. This one floor building is illuminated by skylights and has an area of 145,000 sq. ft. The engineering and research work personnel will be located in this building. The assembly building has an area of over 35,000 sq. ft. and in back of it are three wings which contain a very complete and elaborate equipment for wood, sheet metal and machine work. Although it is not the intention to manufacture complete airplanes the final assembly plane and its machine shop annexes would certainly be ideal for such



Layout drawing of the buildings and airdrome at Wright Field, Dayton, O.

a purpose. Almost every sort of work can now be done with the most modern machinery available. The warehouse which is on a spur of the railroad is 552 ft. long by 104 ft. deep; it is already very completely stocked with all sorts of material and contains over 400 tons of metal to be used in experimental work.

The incompleted propeller testing rig rather resembles a ship building yard. When completed it will be capable of testing propellers up to 45 ft. in diameter and absorbing up

The unfinished propeller rig at Wright Field.

to 2500 hp. There will be a 10 ft. wind tunnel and also a five ft. tunnel. Provisions are also being made for armament testing, dynamometer work, torque stands and for hangars which will house the experimental planes.

When the layout at Wright field is finished it will make one of the most complete and up-to-date experimental stations in the world. As the procurement and handling of aeronautical material is now centered in Dayton that city is certain to remain the center of Army aircraft development.

Jugoslav Pilot Wins Air Race

AT A recent air race held in Belgrade, Jugoslavia, for Polish, Czech and Jugoslav airmen only four of fourteen planes finished. The route of the race was from Belgrade-Bratislava-Prague-Krakow-Warsaw and return, the winner a Jugoslav aviator, Strizevski, receiving a prize of 120,000 dinars. The second prize of 50,000 dinars was won by the Polish pilot, Zvirko and the third by Major Radovitch of Jugoslavia.

Marshall Pilsudski had offered a special prize to the aero club to which the winning airman belonged, and this therefore went to the Jugoslav Air Club. The prize consists of a statute of the Polish King Sigmund III. Strizevski flew a plane constructed in Jugoslavia. General Hadjitch, Minister of War, gave a special banquet for the aviators, while the Belgrade Municipality arranged special festivities.

A Light Plane Height Record

ACCORDING TO an English report Mrs. Elliott Lynn, one of England's best known woman fliers, accompanied by Lady Baily as passenger, recently established what is believed to be a light plane record for altitude. It is stated that she reached an altitude of 17,000 ft. Though the type of plane was not mentioned it is believed to have been a de Havilland "Moth".

Demonstration Given of High Speed Motion Picture Camera

AN EXCEPTIONALLY high speed motion picture camera, adaptable to the photography of high speed air flow was recently demonstrated for the first time in this country at the Daniel Guggenheim School of Aeronautics at New York University. This camera is capable of taking 20,000 pictures a second and by photographing hot air passing over a body it is possible to accurately study the air flow over the body. Three films taken with this high speed camera which was developed by Professor Suhara of the Aeronautical Research Institute at the Tokyo Imperial University, Japan, are now being shown in this country by Baron C. Shiba, director of aeronautical research at that institute.

Apparatus is Very Delicate

The camera works on a very simple principle though the apparatus is very delicate and accurate. A wheel, of about two foot diameter, is accurately ground with highly polished faucets on its circumference. The image, to be photographed is reflected by these polished surfaces on the wheel, which is revolving, to a cylinder on which the film is helically wound. By having the wheel and cylinder revolve in synchronism, with the cylinder at the same time moving along its axis, a new portion of film is continually presented for the reflected picture. Hot air, the flow of which is distinguishable from the surrounding atmosphere, is passed over the object at the required speed and in that way the air flow may be photographed.

The adaption of this camera to the study of aerodynamics very clearly and slowly demonstrates the flow of air over a body. The films demonstrate the flow of air over an R.A.F. 15 wing and a Handley Page wing with a slot at the leading edge, the flow through a propeller and a windmill, and the flow over a wing developed by Professor Waldo of the Japanese Institute. This wing is very interesting having a number of short flexible flaps on the upper surface running the length of the wing parallel to the leading edge. It is claimed that these flaps lie down at low angles of incidence while at high angles they stand up almost perpendicular to the chord of the wing giving a very stable airfoil near the stalling angles. It is said this wing can operate angles normally beyond the burble point reducing the landing speed of a plane considerably.

Tunnel is a Mile and a Half Long

The development of this camera has brought attention to the Aeronautical Research Institute at the Tokyo Imperial University. The Institute is equipped with a modern aeronautical laboratory for research in aerodynamics, materials, metalurgy, engines, fuels, instruments, etc. Through the aid of the Japanese Government an underground tunnel was recently acquired. This tunnel is straight and a mile and a half long. As the air in the tunnel is still, by having perfectly smooth tracks, it is expected to have a very effective wind tunnel. Work is now in progress for the calibration of this apparatus.

The institute is running a series of tests on the destruction of aircraft engines. These tests cover the endurance of the engine after any one or a combination of units have failed, such as the cooling system, lubrication system, etc. During the failure of the engine accurate data is taken on the performance of the engine.

T. Claude Ryan in front of a Ryan-Siemens powered Ryan monoplane.

The Ryan-Siemens Engine

Ryan Aeronautical Corp., is Formed to Manufacture and Distribute German Engine in the U. S.

AN IMPORTANT aviation development was made known at San Diego recently when T. Claude Ryan founder and until last April active head of Ryan Airlines, Inc., announced the formation of the Ryan Aeronautical Corp. with headquarters at 413-416 Union Bldg., San Diego. Mr. Ryan, after Colonel Lindbergh's New York-Paris plane was completed, left the former organization, now the B. F. Mahoney Aircraft Corp., to engage in the airplane engine business.

In his announcement Mr. Ryan stated that his company will manufacture and distribute under the trade name Ryan-Siemens the famous Siemens-Halske engines, now manufactured at Berlin, Germany.

"We are offering these engines to the American users because we appreciate the great need for small and medium powered engines of modern design and proven quality", he said. "We have exclusive distributing and manufacturing rights in the United States for the Siemens line of airplane engines".

The engines of the Ryan-Siemens line are produced by a company which has been actively engaged in manufacturing airplane engines 13 years. The Siemens-Halske Company employs 100,000 persons and its engines are standard equipment on 12 German airways, being built primarily for commercial aviation to give maximum service with minimum expense. Many operators have reported 400 hr. of service without so much as regrinding the valves.

Mr. Ryan's announcement of the new company followed a survey of the American aircraft industry in which an expression of opinion concerning the type engine most needed for general utility in private operation, general commercial business, training, passenger flights, aerial taxi, photography, advertising, air mail feeder lines, transportation of business officials and flying clubs was sought and obtained.

Engines in three models will be offered. General offices will be maintained at San Diego, where complete service facilities for overhaul by expert factory and mechanics will be given. Stocks of engines and parts are now available at both San Diego and New York, and soon will be available from dealers over the United States.

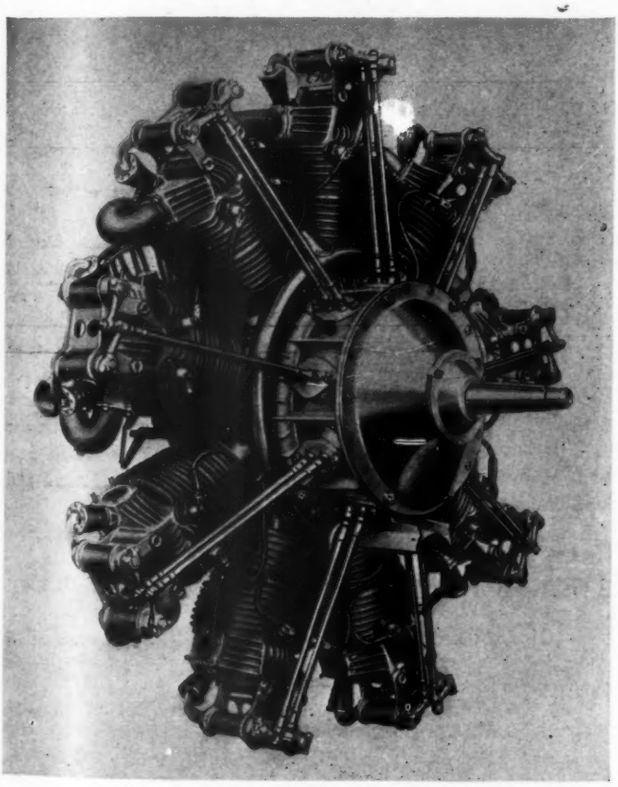
In announcing the Ryan-Siemens engine, Mr. Ryan explained that he had been studying the American market since he left the active managership of the Ryan Airlines last spring and has concluded that the greatest market exists for economical two or three seater planes powered with relatively small engines.

The Ryan-Siemens engines (models 5, 7 and 9) with five,

seven and nine cylinders respectively, will have normal outputs of 70, 100 and 125 hp. Each model has a bore of 3 15/16 in. and a stroke of 4 23/32 in. The stationary cylinders are arranged radially and consist of an open steel journal with aluminum alloy heads screwed on. They are provided with drop valves which are actuated by push-rods and roller tappets. The crankshaft runs on ball and roller bearings. Four, six and eight secondary connecting rods respectively are connected to the head of the master rod acting upon the crankshaft by way of two sturdy ball bearings.

All engines are supplied with two Siemens magnetos and each cylinder with two Siemens spark plugs. The five-cylinder engines are provided with one carburetor, the seven and nine-cylinder engines with two; each carburetor serving all cylinders. The arrangement of the nozzle holder on the carburetor permits of varying the adjustment even while the engine is running. There is a gear pump for the oil supply, which automatically effects lubrication, and a gear return oil pump. Magnetos, carburetors, air- and oil-pump are fitted to the rear end cover in such a way as to be easily interchangeable and readily accessible. The engines are adapted for tractor or pusher propeller drive and normally run counterclockwise, with the onlooker facing the propeller. Engines running in a clockwise direction can be supplied, according to Mr. Ryan.

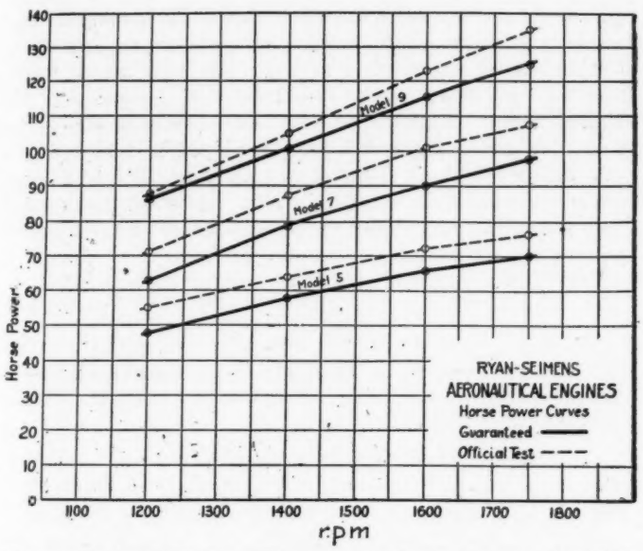
Before announcing the engine, Mr. Ryan equipped a Ryan monoplane at San Diego with a seven-cylinder model and tested it 13 weeks on the Pacific coast. The combined economy



Front quarter view of the 9 cylinder Ryan-Siemens engine.

and efficiency satisfied him with the product, he said. These tests were very fragmentary as compared with those undertaken by the German Official Testing Bureau for Aircraft, however, whose reports declare the motors completely suitable for aircraft use.

In the German tests the nine-cylinder engine was run 150 hr. under full load on the test block. This included a con-



tinuous test of 50 hr. The same engine later was installed in an airplane and used in flights totalling 150 hr. over a distance of 12,250 mi. This was completed without changing any part in the engine, which already had run 130 hr. on the test block. All these tests were conducted under control and supervision of the German testing bureau.

"Particularly noteworthy" said Mr. Ryan, "is the fact that this run from beginning to end was made at full load with the engine running at 1575-1600 r.p.m. These 300 hr. represent a distance of some 25,000 mi., or approximately the circumference of the earth.

"It is interesting to note that these engines were tested 150 hr. at full load, whereas the test specification of most countries call for a full load test of only 10 hr. and a 40 hr. test a nine-tenths full load. Such severe tests as those mentioned give a better indication of quality than lesser ones.

"In reviewing the results of these tests, it is evident that the rated power of all three engines could be increased considerably. The maximum of all three models at 1700 r.p.m., as shown by the tests, is 75 hp. for the five cylinder model, 108 hp. for the seven and 135 hp. for the nine.

"The official tests have shown also that the Siemens engines are the most economical of all airplane engines. The gasoline consumption during the tests was less than .50 lb. per hp. hr. The oil consumption was .016 lb. per hp. hr.

"After the last continuous run the engines were dissembled. Regarding the inspection, the official report said that, 'all the moving parts were found to be in an entirely satisfactory condition. A wearing of the parts was hardly noticeable. The valves had to be slightly ground'. During the run none of the valves were ground".

Under the full load test the horsepower and fuel consumption at various speeds were noted as follows:

	R.P.M.	*POWER HP.*	*FUEL CONSUMPTION HP./HR.*
	1200	87	.436
	1400	105	.428
Model 9	1575	121	.414
	1750	135	.414
	1875	144	.408
	1200	71	.436
Model 7	1400	87.3	.422
	1600	101	.414
	1750	107.5	.408
Model 5	1200	55	.454
	1400	64	.44
	1600	72	.430
	1750	76	.430

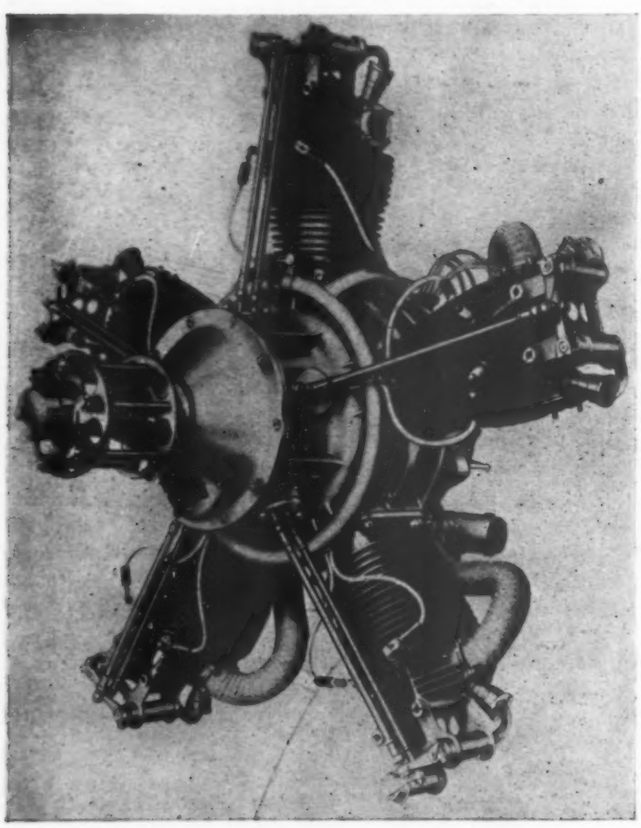
Mr. Ryan expressed the belief recently at San Diego that there will be a considerable development in small serviceable

planes for the 10 uses enumerated during the coming months. As he pointed out, until 1926 semi-modern airplanes and the war surplus stocks powered with the old OX-5 engine represented 90 per cent of the commercial flying equipment in the United States. During the past seven years, however, the radial air cooled engine has been developed to a high degree of efficiency both in Europe and in America. The great saving in weight, increased reliability and greater durability has caused airplane design to be changed to produce planes of greater air efficiency. In the past two years almost all of the world famous flights have been made with radial air cooled power plants.

"The immediate success of the air cooled engine, the first important engine development since the war, clearly shows the great need for modern engines combining the needed qualities of reliability and efficiency", said Mr. Ryan.

"The need of an engine, efficient and reliable in the medium and smaller sizes is evident. This has not been available in the United States. The commercial aircraft manufacturer is faced with the dilemma of using either an inexpensive obsolete and unreliable war surplus engine, or of purchasing a large modern engine disproportionate in cost to the returns it can earn. The solution of this problem obviously lies in the development of a modern air cooled engine ranging from 75 to 150 hp., with a comparatively low initial cost.

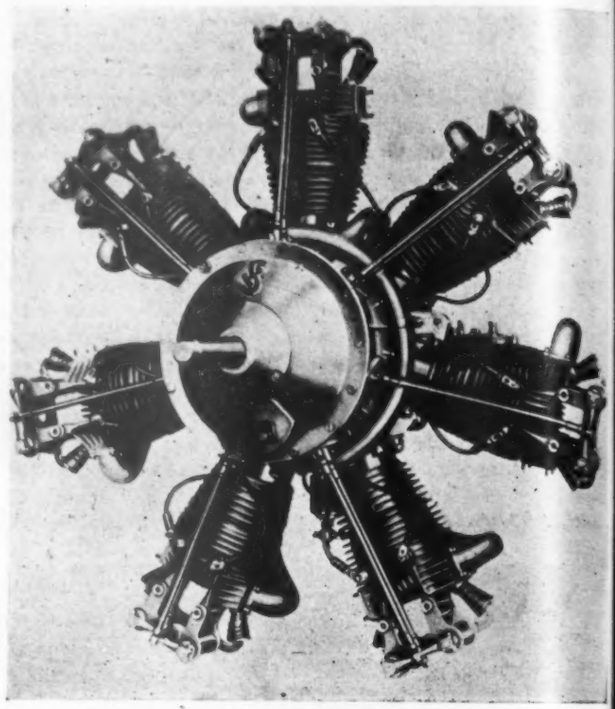
"The modern air cooled engine makes possible a new and more efficient type of plane. This modernized plane much



Front quarter view of the 5 cylinder Ryan-Siemens engine.

smaller than the war surplus plane will have a greater useful load and much superior performance, due to the lightness of the engine and advanced type of plane construction, although the engine itself is more expensive than the war surplus engine of corresponding horsepower. The finished plane with engine installed will approximate the cost of the war surplus equipment due to the simplification of construction.

"A survey of the United States has disclosed that there is no engine now manufactured which would fill the need met by the Ryan-Siemens engine. It was first thought to develop a motor of this type for manufacture in the United States.



Front view of the 7 cylinder Ryan-Siemens engine.

A study of the development of any highly intricate piece of machinery disclosed that it takes from five to ten years to make any new mechanical development of practical commercial value. Rather than to incur this great expense we decided to obtain if possible the manufacturing and sales rights on an engine of this character made elsewhere. A careful survey disclosed the fact that the only engine now manufactured which would fit these specifications was Siemens Radial Aircooled Engines. These engines have been in production since 1917 and are regarded as the most efficient and dependable motors manufactured."

To Hold National Aeronautics Conference in Washington, D. C

ANNOUNCEMENT HAS been made by Wm. P. MacCracken, Jr., assistant secretary of commerce for aeronautics that outstanding problems which confront the Government and the industry in the development and regulation of commercial aeronautics in the United States will be discussed at a general conference to be held in Washington, D. C., beginning Dec. 5.

Representatives of every branch of aerial activity, including manufacturers of aircraft engines and accessories, air transport and service operators, airport managers and engineers, members of the faculties of schools of aeronautics, insurance underwriters, state and municipal officials, and editors and publishers of aeronautical journals will be invited to attend.

The primary purpose in assembling such a representative group, Secretary MacCracken pointed out, is to follow out

the Department's policy of seeking to ascertain from those most interested and best qualified opinions as to what the Federal Government can and should do in the best interests of the public and the aeronautical industry.

Conference discussions which are expected to extend over five days will be centered around five main topics:

Air Commerce Regulations—Changes and amendments.
Aviation Schools—Management, equipment, courses to be given—standardization.
Airports—Rating of—under Air Commerce Act. Management and administration. Standard field rules—safety measures in ground operations. City and county participation in control of local activities.
Department Services—Landing field Bulletins. Airways Maps. Aids to air navigation on airways, including equipment, weather reports, radio service, etc. News bulletins—trade promotion.
Other Services—Performance tests of commercial aircraft. Performance tests of engines, propellers, instruments and other aircraft equipment. Miscellaneous items of interest that conference may develop.

The close of the calendar year 1927 will mark the first twelve months of air commerce regulation by the Department. Before the regulations were promulgated, the advice of a similar group was sought. During the initial nine months of this year the Air Regulations Division received nearly 8,000 applications from pilots, mechanics, and owners and manufacturers of aircraft. In addition it distributed 25,000 copies of the regulations and air traffic rules, the enforcement of which is a part of its functions.

To Discuss More Subjects

While former conferences dealt largely with these regulatory functions, the scope of the forthcoming conference has been broadened to include the services which the Department is rendering for the advancement of commercial aeronautics. Interest in all phases of aerial activity has increased to such an extent during the short period of time that has lapsed since the passage of the Air Commerce Act of 1926 and the organization of this new activity in the Department as to make it difficult to ascertain how best to serve and to keep those interested informed of the work the Department is doing. It is the hope that this conference will not only help and improve the service the Department is endeavoring to render but also furnish a means of disseminating information as to what the Department is doing for the promotion of civil aeronautics and the aircraft industry. In addition, it will present an opportunity for those actively engaged in aeronautics to meet and exchange views on subjects of utmost importance to them.

British Air Secretary on Tour

SIR PHILIP A. G. D. Sassoon, Bart., C.B.E., C.M.G., M.P., Under Secretary of State for Air of the British Empire is now in this country to inspect the aircraft establishments and manufactures on this side of the Atlantic.

During his tour Sir Philip will visit the Wright Corp., Paterson, N. J.; Curtiss Aeroplane and Motor Co., Mitchel Field, L. I.; Naval Air Station at Anacostia; Bolling Field, D. C.; Naval Air Station at Hampton Roads, Va.; Langley Field, Va.; Wright Field, Dayton, O.; Ford Air Port, Airship Development Co., Detroit, Mich.; Selfridge Field, Mich.; and the Glenn L. Martin Aircraft Corp., Cleveland, O. Part of the tour will be made by plane.

While on this visit the Secretary will be accompanied by Wing Commander T. Gerard Hetherington, Air Attache of the British Embassy at Washington, D. C., and Maj. Clarence L. Tinker, Air Corps, U.S.A., who was formerly Air Attache at the American Embassy in London.

Sir Philip is a baronet, Member of Parliament and is one of the younger political leaders in Great Britain. In addition to his political activities he is a well known philanthropist, occupies a high position in the financial world, and is an enthusiastic flier. In order that he may do such flying as he desires, the War Department has placed at his disposal such planes as he may wish to use during his visit.

Lieut. Arthur Gavin, U.S.N. Wins Herbert Schiff Trophy for 1927

THE HERBERT Schiff Memorial Trophy has been won by Lieut. Arthur Gavin, U.S.N. who has a record of 865 flying hours during the fiscal year 1926-27 without serious accident to personnel or material.

Lieutenant Gavin is the third winner of this trophy which was donated by the family of Lieut. Herbert Schiff, U. S.

Lieut. Arthur Gavin and his dog mascot.

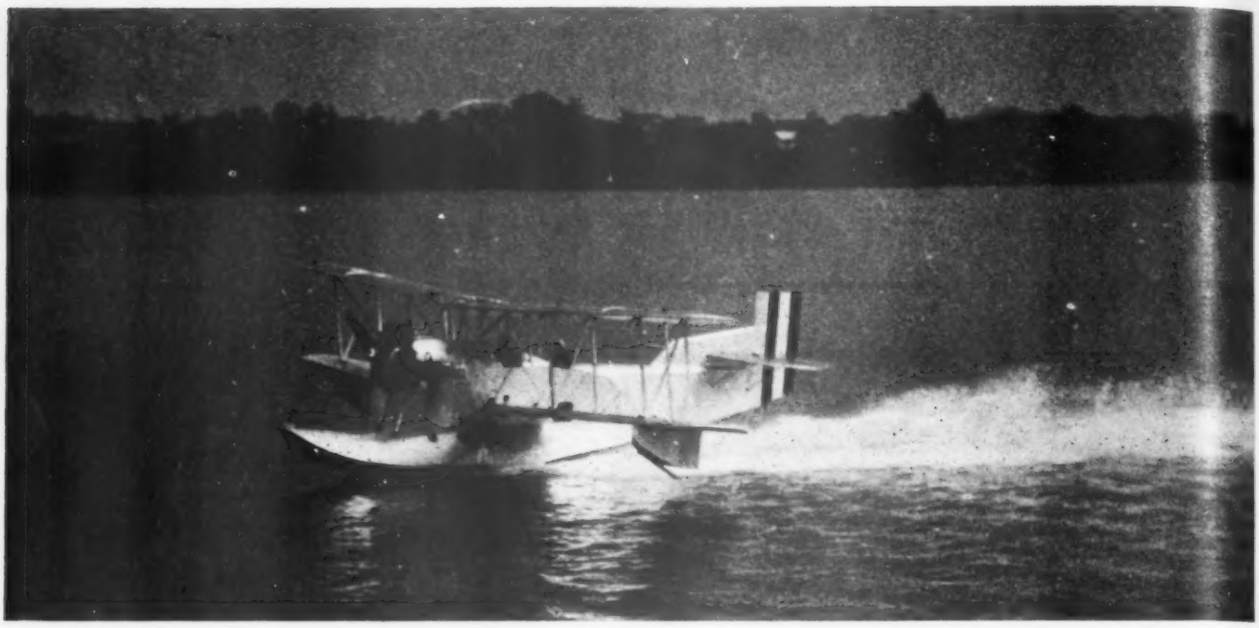
Naval Reserve Force, of New York City, to promote safe flying. Lieutenant Schiff was killed in line of duty at the naval air station, Hampton Roads, Va. on July 11, 1924.

Lieutenant Gavin was born on Oct. 13, 1895 at Ashland, Wis. He enlisted in the Navy during the war and while at the Naval Air Station, Pensacola, received the rank of ensign, in the Naval Reserve Force, in Sept. 1918. In Oct. 1918, he was ordered to the Naval Air Station, San Diego, Calif., and a year later was sent to Houston, Tex., for duty in connection with the recruiting of aviation mechanics. He returned to San Diego in Jan. 1920. In April 1919, he received the rank of lieutenant, junior grade, U.S.N.R.F. and in July 1919 was commissioned a lieutenant in the regular Navy. In May 1923 he was on duty with the Aircraft Squadrons, Scouting Fleet and in 1925 was a member of the crew of the PN-9 No. 3 on the attempted West Coast-Hawaiian flight. In June 1926 he reported for duty at the Naval Aircraft Factory, Philadelphia, where he is now stationed. Lieutenant Gavin's home is in Ashland, Wis.

Capt. Harold C. Campbell, U.S.M.C. won the Schiff trophy in 1926 with a record of 839.40 hr. without serious accident, and in 1925 it was won by Lieut. Reginald Thomas, U.S.N.R.F., on duty at Squantum, Mass.

To Use Seaplanes on New Line

ACCORDING TO a local report it is planned in 1928 to handle a portion of the winter travel between the United States and Bermuda by seaplane. Bellanca seaplanes are to be used over this 600 mi. route, which will be from New York City to Charlotte, N. C. and then to Bermuda. Harry E. Tudor of Rockaway Beach, L. I., N. Y. who recently returned from an inspection trip to Bermuda states that it is expected that within a year week-end passenger service will be in operation.



A Loening OL-8 Amphibian (425 hp. Wasp) being landed on the water.

The Loening OL-8 Amphibian

Successful U. S. Navy Experimental Model is Powered With a 425 Hp. Pratt & Whitney "Wasp" Engine

THE FIRST Loening OL-8, a Loening Amphibian powered with a Pratt and Whitney R-1800, "Wasp" engine developing 425 hp. at 1900 r.p.m., constructed as an experimental model for the U. S. Navy recently successfully completed all of its trials for the Navy Department. It was built by the Loening Aeronautical Engineering Corp., New York City. The OL-8 is a standard three place Loening amphibian tractor biplane such as the water cooled types now in service with the Army, Navy, Marine Corps, and Coast Guard. These planes have proven themselves exceptionally rugged and practical for land and water service in all sorts of climates. They are of composite construction having a wood frame hull covered with metal and wood and fabric wings with metal ribs. The plane has a fine performance with a high speed of 124 m.p.h. and a landing speed of 50 m.p.h. carrying a useful load of 1462 lb. The OL-8 weighs 4,715 lb. fully loaded.

Front quarter view of the Loening OL-8 Amphibian on the ground.

The Loening Amphibian has quite a distinctive appearance as it is a tractor biplane with a body mounted above a hull that protrudes in front of the propeller. For this reason it was necessary, on the water cooled types, to have an inverted engine raising the thrust line so the propeller could clear the hull. On the OL-8 the air cooled engine is installed with the thrust line in exactly the same place. The cowling has been reduced considerably giving the entire plane a much more streamline appearance. The air cooled engine has simplified the installation which reduces the weight of the craft appreciably.

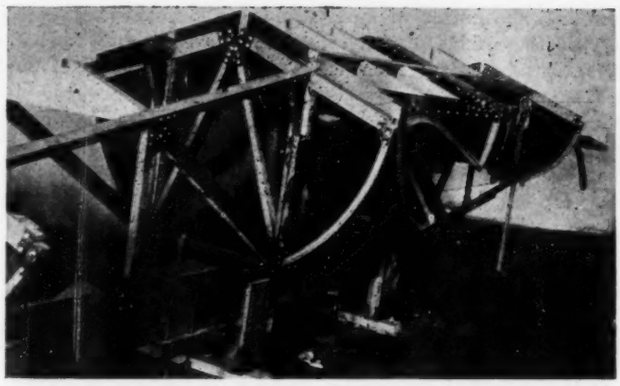
The disposition of a body mounted directly on the hull results in a very roomy plane that may be adapted to many purposes. The pilot and observer or passenger sit at the top of the body, high above the hull and in a comparatively protected position. This arrangement, which is patented by Loening, gives a combination of hull and body so that the flotation element of the plane is used not only for flotation purposes but for the functions of the fuselage both in strength supporting the engine, and in room for carrying of equipment, passengers, gasoline, etc.

Beneath the pilot, who sits above the lower wing in the body, is the main fuel tank of 140 gal. It is mounted in the

hull so that it can be easily replaced by removing a few rows of bolts along the seams on one side of the hull. The pilot's seat is well forward to give good visibility for aircraft carrier landings. The gunner's seat is behind him in back of the wings, and below in the deep hull is situated the cabin for the radio operator and observer. By means of windows in the side of the hull, he has excellent visibility below the lower wing—a feature which has not hitherto been possible on most tractor biplanes, and which has been found of the greatest value on the Loening Amphibian.

One of the most interesting features of the Loening Amphibian is the retractible landing gear. The wheels and the structure of the landing gear fold into the hull so that only half of the wheel protrudes, thus giving ample water clearance. The landing gear of the Loening Amphibian has now attained a point where against a great deal of hard service as a land plane has shown it to be entirely satisfactory, both in strength and in taxiing qualities, as well as in maintenance.

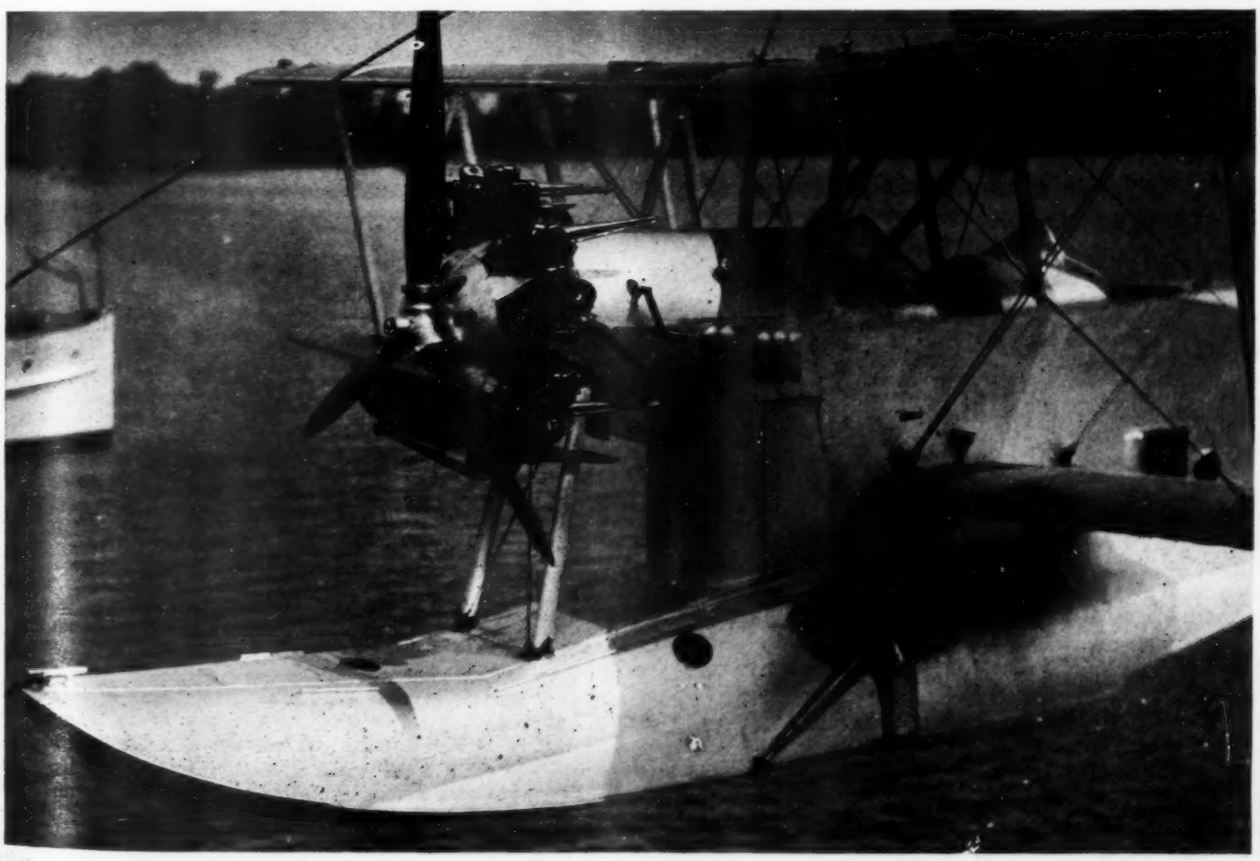
The wheels are pivoted on frames, raised and lowered laterally with respect to the hull, a system on which patents have been granted to Loening. A thrust member carries the landing gear load from the top of the wheel frames. The upper end of this thrust member, being operated upon a slide tube through cables or screw shafts, rotates the wheel frames around an axis at the chine of the hull upwards and into the side of the hull, so that the entire mechanism is folded away with the exception of half a wheel. The principal advantage of this folding away is not in reduction of air resistance, as much as in the reduction of water resistance for take-off and in bringing the landing gear mechanism away from the possible action of taking up driftwood or debris which would tend to jam it one way or the other. A cover plate, attached to the axle, folds up over the opening in the hull only a few inches up from the chine in order to prevent water, or driftwood, or other obstacles from sweeping in there. That would also tend to jam the operation of the landing gear. The landing gear itself has a new and novel action in the manner in which the thrust rod actuates a rocker arm to the other side of which are fastened the rubber shock absorbers.



Loening type of composite construction. Note the opening in the bulkhead for the wheel to fold into.

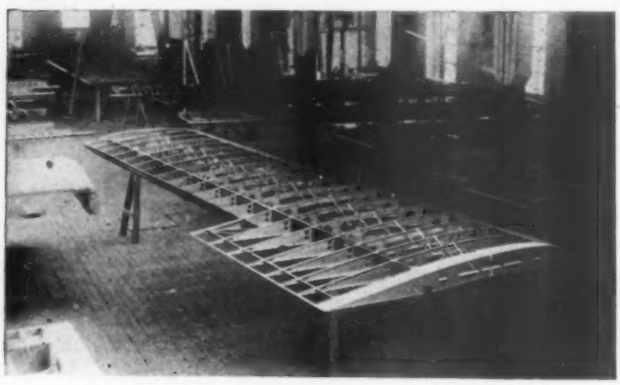
At the rear of the main section of the hull is a husky tail skid of steel tubing bearing up against rubber disc shock absorbers, and on the skid is mounted a removable shoe for wear and tear. In the early stages of its development the tail skid was a difficult problem to solve on the Amphibian. but the present skid has been found remarkably strong and serviceable and has given no difficulty.

An additional item of interest and novelty in the landing



Close up of the nose of the Loening OL-8 Amphibian showing the 425 hp. Pratt & Whitney "Wasp" engine and the folded landing gear.

gear is the mounting of spring skids on the side floats—not only do these skids protect the side floats from driftwood in water, but they also protect the floats from injury on the land—particularly on those frequent occasions in which pilots have landed on land with Loening Amphibians and have forgotten to let down their wheels. In which case the plane rides along on its husky keel shoe and balances over on the wing float skids without any injury whatsoever. The facility with which this maneuver, which formerly was based on



The wing assembly room at the Loening Aeronautical Engineering Corp. factory.

an oversight, can be done, has led to the recent practice among Amphibian pilots to recommend that in cross country flying the Loening Amphibian be flown always with the wheels up. A safe landing can be made in a very short field in a perfectly normal way on the keel of the hull, particularly if the field is soft and muddy. The landing this way results in a very short run enabling the pilot to get into a confined space. All that is then necessary is to dig holes in the ground for the wheels, let the wheels out and taxi out on to the surface.

The whole assembly of the landing gear is an exceedingly simple and finished job, and of course has been very highly developed because of the long experience of the Loening Corporation in this work. The operating mechanism is either by electric motor and suitable drive shafts, or by a simple hand crank and cable system, which is now used on the latest amphibians.

Designed and Built in 1911 and 1912

The Loening type of composite, wood frame-metal covered and bolted float construction was first used in experimental flying boats, designed and built by Grover Loening in 1911 and 1912, and later in seaplanes built by the original Wright Company in Dayton, in 1914 when Mr. Loening was chief engineer. In this type of construction the framing is wood, fastened together by gusset plates of metal, the entire framing covered by sheet metal bolted to the wood. Experience has shown, however, that great care is to be taken to separate the duralumin sheet and the wood by a layer of fabric impregnated with bitumastic or marine glue. The use of bolts instead of rivets or wood screws is the result of a very careful study and is particularly desirable in that it makes the protection of the bolt against corrosion in salt water much easier. Each individual bolt can receive numerous coatings of enamel or bitumastic, if desired, and, in being fastened to the hull, it is not hammered like a rivet and therefore is not likely to lose its heat-treatment against corrosion. Any amount of protection can be given the bolts, which is not true of the rivets. The wood frame has enough resiliency to take up the severe local-strains of the land operation of this airplane to prevent leaks from developing, which has always been a serious cause of trouble in amphibians.

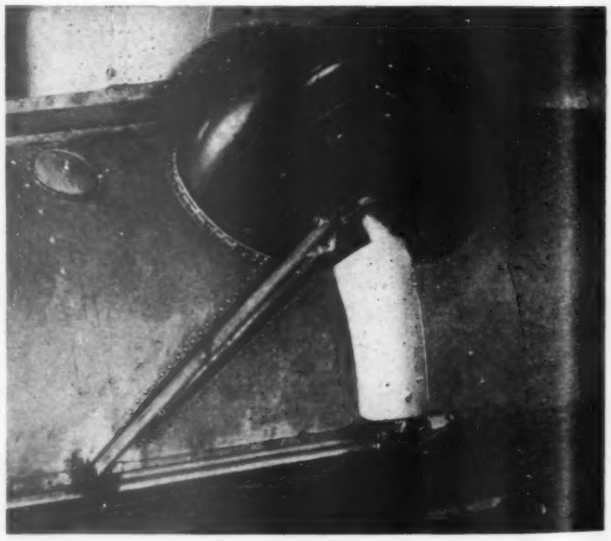
The frame work of the hull consists essentially of two longitudinal girders of the Warren truss type cross connected by bulkheads, sub-dividing the hull into numerous watertight compartments. The spruce longerons of this frame work and the diagonal members are all joined by simple flat gusset plates of dural bolted throughout with duralumin bolts, giving an excellent job for production.

The lower part of the hull frame work and the upper longerons and diagonals framing the main fuselage section are all built as one unit, the lower part, however, having a curved tumble-home side and the upper body section a flat side with a rounded top. The bottom of the OL-8 is specially reinforced to withstand contact with the deck alighting gear on the aircraft carriers, and in addition to that, the hull of the OL-8 is specially braced internally and externally to withstand the catapult stress incident to being shot from the Navy powder catapult.

Advantageous to Amphibian Work

This type of construction therefore has been peculiarly advantageous to amphibian work, and is now beginning to be adopted for use in other types of flying boat hulls and floats by several airplane constructors both in this country and abroad. The composite construction gives all the advantages of all metal floats in not absorbing water, and yet, this Loening construction reduces the difficulty found in all-metal floats of making a riveted seam watertight. The sealing of the joints, by use of fabric tape impregnated with a special waterproof glue, and clamped down between the metal covering and the wooden frame with duralumin bolts gives a remarkably watertight result, particularly as the wood when damp swells sufficiently to give all the advantages of tightening found in wooden hull construction.

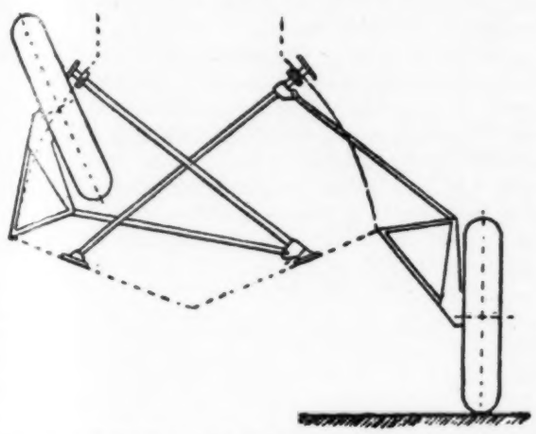
Although this composite construction has been used for years successfully by Loening, it did not receive very wide adoption in the airplane field because there existed a wide-



The landing gear folded in on the Loening Amphibian. Note that attached to the axle is a cover plate to keep floating debris from fouling the gear.

spread impression that float and flying boat hulls had to be built like boats—whereas, as a matter of fact, the static conditions were quite different between a motor boat and an airplane float, and the dynamic requirements were altogether different. There are many instances in the development of new arts, where survival of similiarity to some other art delayed progress for many years. Loening was perhaps one of the first airplane constructors to recognize and, despite

opposition and criticism on his float design to persistently develop the idea that an airplane was an airplane, and each and every item of its construction, including suitable flotation elements should be designed from an airplane and seaplane standpoint, and not be blindly based on adopting the construction practice of other arts. That composite construction itself would stand up was evident from the manner in which it has survived in the construction of automobile bodies, where the weathering and racking, and vibration wear and tear is



The mechanism of the retractable landing gear on the Loening Amphibian.

far more similar to what an airplane encounters, than is the comparison of the airplane's flotation element to that of the boat.

The wing construction of the Loening Amphibian is also composite that the ribs are all made of duralumin and the spars of spruce. This gives an excellent combination for a seaplane, particularly with the advent of the new non-corrosive duralumin called "alclad" which is used on the ribs, because the maintenance difficulties of the small parts on a seaplane of glued-up wooden ribs coming apart are entirely solved—and yet the reliability and lightness of wooden spars are maintained throughout.

The wing truss consists of welded steel N struts with the usual streamline wires bracing the two bay wing, all being held by simple flat plate metal fittings which project through the wing but are carefully boxed in so that no salt water can enter the wing around the fittings. The dihedral is three degrees, the stagger 12 in. and the span of the wings 45 ft. with a chord of six feet. It is notable that the ailerons are very long with a very narrow chord. They have proven to give a strong and light lateral control at all speeds. The lower ailerons are operated by internal cables in the lower wing and the upper ailerons operated by struts from the lower ones—so that an exceedingly simple aileron system is obtained with the load wire itself continuous across the plane.

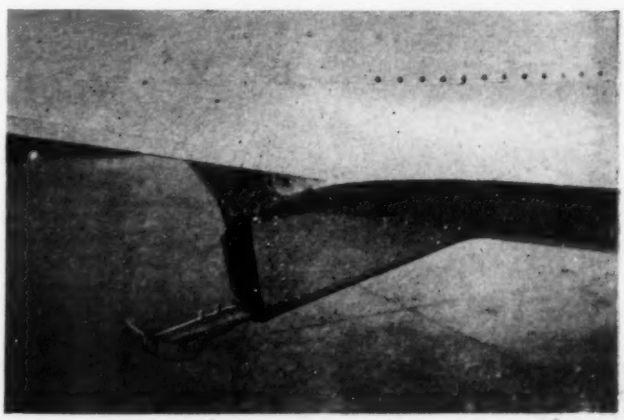
Loening 10-A Wing Section Used

The Loening 10-A wing section is used on the OL-8 amphibian—a section, which was developed exclusively by the Loening engineers and proven to have remarkable characteristics. This is the same wing section which, according to government tests on application to DH planes, with no other change, increased their speed over the R.A.F. 15 wing by over 13 m.p.h., decreased the landing speed 11 m.p.h., and increased the ceiling 2,000 ft. Several DH's are now in the service of the U. S. Government, using the Loening 10-A wings—one of the most notable of these planes, being the special DH used by Major E. H. Brainard, chief of the Marine Corps Aviation Service. The wings have the high safety factor required of two-seater observation planes, and all manner of "stunting" is practical on the Loening Amphibian with this wing structure despite the size of the craft. Special fittings that have been devised in the development of the Amphibian enable a very quick set-up and takedown. One of the most notable features of the wing structure—which is applicable to many other types of airplanes—is that, the N struts are all made on elaborate jigs in one unit to an accuracy of .01 in. so that no lining up or adjustment of the N strut is necessary in setting up the wings. The N struts serve as an ideal jig for incidence and stagger.

A wheel control is arranged in the forward cockpit, and stick control in the rear cockpit is of the usual type. The combination, however, of the wheel and stick has resulted in an interesting mechanism in which the operation of the wheel by a chain rotates a sprocket, to which is attached a tortional shaft, which when rotated at one end—due to eccentric location of centers throws the stick from side to side. Suitable universal joints take care of the elevator movement fore and aft, and the entire mechanism represents a very workmanlike and simple solution of what has hitherto been quite a complicated problem in aeronautical design.

Stabilizer Not Adjustable in Flight

The elevator and stabilizer are of quite usual wood and fabric airplane construction braced by diagonal steel struts, the whole making a very rigid structure on torsion. The stabilizer is not adjustable in flight but there is what amounts to the same thing—a spring adjustment on the elevator controls that relieves the pilot of tail heavy or nose heavy balance, much the same way as the stabilizer adjustment but with the advantage that the stabilizer itself remains always a safe and rigid structure not likely to become dangerous due to lack of maintenance. This "bungee" system, as opposed to an adjustable stabilizer system is being received with increased favor throughout the world, and has long been a feature of Loening airplanes. There is an added advantage in that on landing, should the plane have been flying in a tail



The tail skid of the Loening Amphibian. The covering or fairing is strong enough to carry the load in case of failure of the tail skid.

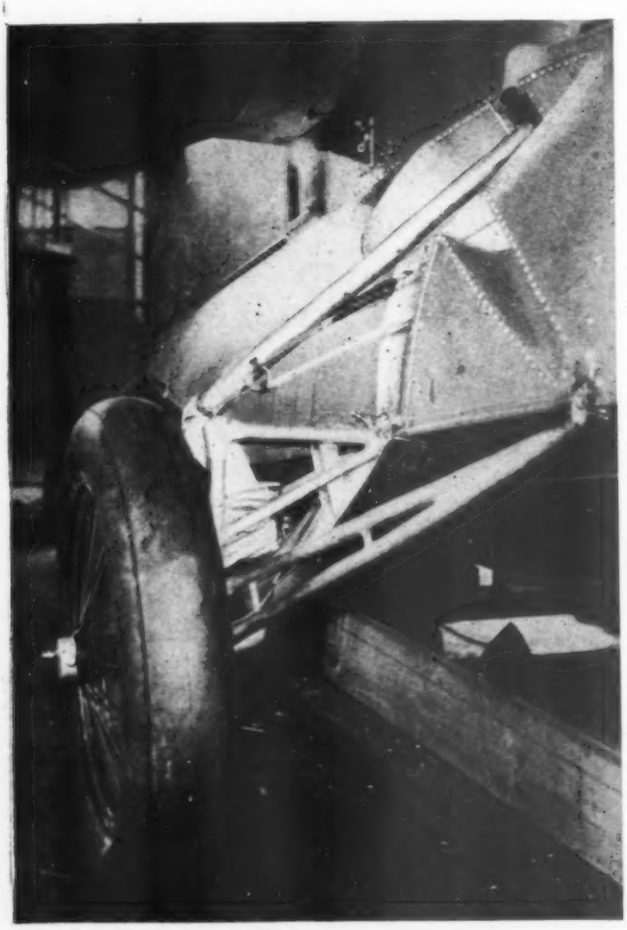
heavy condition, the usual difficulty of the pilot having to wind down the stabilizer in order to get the tail down is not encountered. All that is done is merely to momentarily overpower the elevater bungee adjustment.

The fin and rudder are both metal covered throughout, and it is in the rudder that there is found one of the most interesting developments of the Loening Amphibian, as the size and shape of rudder and balance have been extensively tested in flight in order to obtain the exact and remarkab'e

flying characteristics that are now found in this type of plane. It will be noted that the rudder is quite high with a fine aspect ratio and of large area. The rudder is of composite construction, much the same as the hull, which is a totally new departure in the construction of control surfaces for airplanes, originated by Loening, and found very serviceable. The frame of the rudder is wood externally, covered and bolted to which is continuous dural sheeting of very light gauge with all the usual protections of anti-corrosive paint, and fabric strips.

The Pratt and Whitney Wasp engine, mounted at the nose is supported in a manner quite different from the usual installation on tractor airplanes, in that, in addition to the steel tubes running fore and aft to the longerons from the flanged dural engine plate, there are two vertical struts running down from the engine plate and somewhat forward, braced by cross wires which transmit the engine load directly to the front part of the hull. This engine bed support has been responsible for greatly reducing the usual radial engine vibration, and making the plane smoother to fly. The cowling around the engine has been reduced to the minimum so as to give ample air cooling for tropical work while at the front central section of the cowling is the usual rotary shutter widely used on foreign air cooled engine planes. The region of the body beneath the engine is well streamlined, as may be seen from the photograph and the air resistance of the radial engine in the body section has been found on the OL-8 to be less than that of the old water cooled engine and its radiator.

The oil tank is located right back of the engine and has a capacity of 10 gal., and the gasoline tank, which has a capacity of 140 gal. is located in the lower part of the hull below the pilot.



The wheel of the Loening Amphibian extended. There is no load on the landing gear shown in the photograph.

Usually the most surprising feature to pilots on the new OL-8 Amphibian is the remarkably easy and normal flying characteristics. According to the report of Navy pilots, the OL-8 is an excellent flying machine, control is easy and positive on all controls and lateral, longitudinal and directional stability are entirely satisfactory. The plane is well balanced and has been declared by numerous service pilots as representing one of the finest flying airplanes of any type in the service today. It is said that by turning the rudder alone, the plane of its own accord goes automatically into the proper bank at which time opposite rudder alone will usually and with no effort swing the tail in the opposite way, the plane resuming the correct opposite bank with no tendency whatsoever to be directionally cranky. The ailerons are easy to move and positive in their action to a degree that is surprising even at the slowest stalling speeds.

Plane Takes Off Quickly

The plane tends to nose up powerfully when dived and acts very well in a whip stall. In the sharpest stall the plane has been found to be so controllable that it can be prevented from falling off on either wing. A large side area enables pilots to make the most extraordinary side slip landings, as the plane has the desirable characteristic of feeling entirely positive in the air in all positions that it is put. In Government work, of course, the Loening Amphibian has been looped, spun and rolled, frequently, particularly by the test pilots of McCook Field who put this plane through every conceivable maneuver.

Another feature of great practical importance in the Wasp engined Loening amphibian is the quick take-off on the water with full load. The plane has been repeatedly timed to take off between nine and ten seconds. Due to the special spray strips that have been added to the hull, very little spray is thrown into the propeller and practically none at all into the engine.

The Loening Amphibian carries a large load and a 5000 lb. plane of this type that can be thrown around and shown to respond in the manner in which the OL-8 responds to its controls is a remarkable achievement in airplane engineering.

Since the maiden flight of the first Loening Amphibian, in June 1924, piloted by Lieut. Wendell Brookley of the Army Air Service, it is interesting to learn that over 1,600,000 mi. of flying have been done by Loening Amphibians in practically every part of the world.

A Design of Many Uses

This original and ambitious design of plane, having become in a space of three years the standard service plane of this type for the Army Air Corps, the Naval Air Service, the Marine Corps and the United States Coast Guard, is now a familiar sight at all air stations, and represents in a remarkable way the successful achievement of a unique American step in the aviation art, which is not even approached by developments in other countries.

Although the Loening Amphibian has been primarily designed for observation work for both Army and Navy, it has of course, many other purposes—one of the most successful of which has been its use in aerial photography. Merging the fuselage and the hull into a single compact structure has eliminated the hanging floats of the seaplane and the engine super-structure of the flying boat, and has given a highly useful land plane were it never to see the water, and a sturdy tractor boat were it never to see land—but because the two are combined in this plane with its large body al-

ways offering ample room for more and more equipment, it is easy to understand why the U. S. Government has so often chosen the Loening Amphibian for its difficult missions.

The list of these successfully conducted special expeditions of the U. S. Government is decidedly impressive, and began in 1925 in the use of the Loening Amphibian by Commander R. E. Byrd with the MacMillan Arctic Expedition, who came back safely from Greenland after 6,000 mi. of the most dangerous kind of flying over the Arctic wastes.

In December 1925, Lieut. Eugene Batten, Army Air Corps, accomplished his aerial survey of the Rainy Lakes and the Canadian border with complete success—a feat the Army could not previously accomplish because it took an amphibian and a good one to do it.

In March, 1926, Lieut. Clarence H. Schildauer returned from Cuba, his hydrographic survey for the Navy successfully completed without any difficulty using the very same planes that Byrd flew in the Arctic.

Sets World's Record for Speed With Load

In August, 1926, Lieut. George C. McDonald beat the world's record for speed with load in an Army Loening Amphibian, not only as a seaplane but carrying all its landing gear along in addition.

In the late summer of 1926, Lieutenant Pope of the Navy accompanied by Chief Machinist Mate June, successfully accomplished their work for the Navy in the Gulf of Venezuela under the worst tropical conditions.

During the summer of 1926, Lieut. Ben H. Wyatt of the Navy went up to Alaska with his fleet of Loening Amphibians—flew about 50,000 mi. without a single forced landing of any kind, and flew back down the Pacific Coast to San Diego, completing one of the most brilliant exploits in the annals of American aviation, and with more than double the amount of difficult survey work accomplished than had been thought possible. Lieutenant Wyatt recently was awarded the Distinguished Flying Medal by President Coolidge for his notable achievement in this expedition.

The latest and crowning achievement of the world-wide use of the Loening Amphibian is the Pan-American Flight, under the command of Maj. Herbert Dargue. As has been pointed out in Major Dargue's reports and articles, this plane distinguished itself by overcoming difficulties that no other type of plane could have done. A test of equipment gave conclusive proof of the sturdiness and serviceability of the Loening Amphibian.

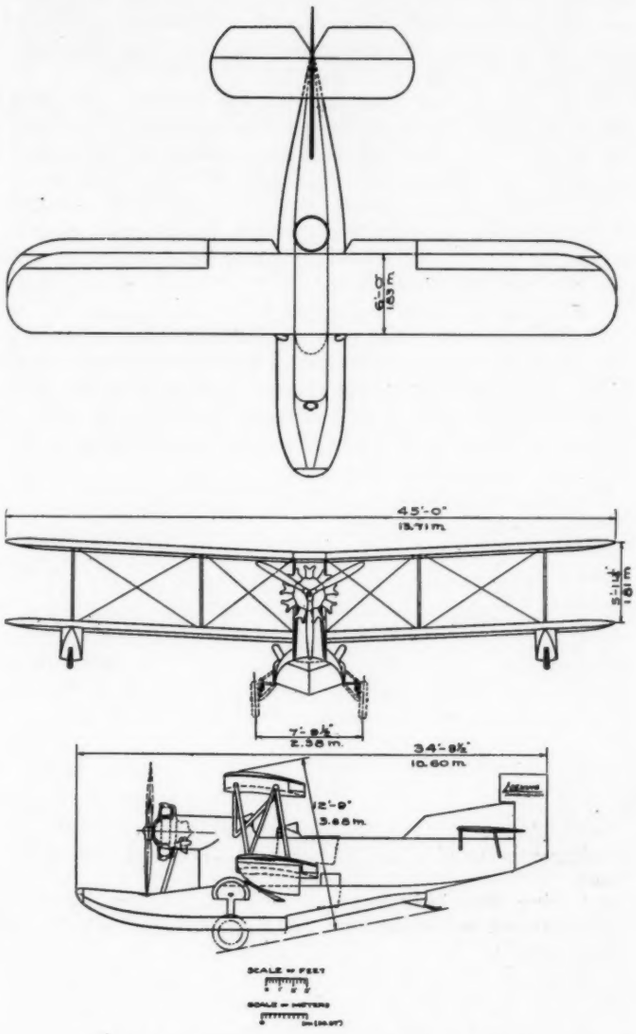
Standard Equipment in Army Air Corps

Following the Pan-American Flight, Major Dargue used one of these same planes on a good will tour of 30 states. Another of the planes of the South American expedition has been in the air over 50 hr. since its arrival at Bolling Field on May 5. Captain Eaker used this plane to carry Col. Charles A. Lindbergh from Mitchel Field to New York harbor on his return to the United States.

At the present time, this type of plane is in daily service use on every battleship in the United States fleet, at Naval Air Stations, in San Diego, Panama, Hampton Roads, Anacostia, etc.

In the Army Air Corps, the Loening Amphibian is standard equipment, and actually in use in Panama, Philippines, and Hawaii, where it has been found ideal for observation purposes—and in addition Loening Amphibians are stationed at West Point, Bolling Field, Crissey Field, Wright Field, Kelly Field, Ft. Crockett and Langley Field.

The Loening Amphibian is also in the service of the United States Coast Guard with planes stationed at Gloucester, Mass., and Cape May, New Jersey, where they are used by the



Three view drawing of the Loening OL-8 Amphibian.

Coast Guard for cooperation with service vessels in coast patrol against smuggling.

In addition to the above, the United States Marine Corps have several Loening Amphibians in active service,—there being a unit of these planes actually in use in the Marine Corps Attachment in Shanghai, China, where the United States is represented in an area of international operations.

The 100th Loening Amphibian will shortly be delivered, and the Loening Aeronautical Engineering Corp. has inevitably acquired in its specialization on this work a vast amount of practical experience which should prove of tremendous advantage to this company when it proceeds into the commercial field—which it has been confidentially whispered will shortly be the case.

The Loening Amphibian is a patented and proprietary design, and the history of the development work of Grover Loening's invention of this new type of plane occupies an unusually distinctive niche in the history of the art.

The persistent manner in which the constructors of this plane have stuck by their development and brought it to the high degree of success that it has now attained is an inspiring example of the importance in engineering work of patient and logical step-by-step growth of an idea, from the original thought on paper to the finished product itself,—now being produced at the Loening plant at the rate of two a week.

The importance of the Loening work on amphibians is only now beginning to be realized, particularly in view of the

numerous recent instances in which land airplanes have proven their danger and uselessness in a practical way over water by a series of unfortunate tragedies that have been very harmful to aviation.

While Loening has been carrying the burden, almost for the entire world, on the development of amphibian airplanes for the last few years, there is now evidence in the advent of many new commercial amphibians that this pioneering work in leadership of the art since the war is about to have many followers and that it is perhaps, second only in vital importance to the development of the radial air cooled engine.

The old adage about a prophet having little honor in his own country is somewhat true in this instance—as Loening has been overcoming obstacles quietly, and with very little credit, accomplishing the solution of a really practical amphibian airplane—which, as a problem in design, has generally been conceded to be one of the most complicated and difficult presented to the art.

The general dimensions, weight and performance of the Loening OL-8 are as follows:

Overall span	45 ft.
Overall length	35 ft. 2¾ in.
Overall height:	
Wheels down	12 ft. 11 in.
Wheels up	11 ft. 6 in.
Wing section	Loening 10-A
Length of panels	21 ft. 3½ in.
Chord	6 ft.
Gap	71¼ in.
Stagger	12 in.
Dihedral	3 deg.
Incidence	3 deg.
Sweepback	none
Landing gear tread	95 in.
Areas	
Total wing area including ailerons and center section	502 sq. ft.
Upper panels, ailerons, and center section	259 sq. ft.
Lower panels and ailerons	243 sq. ft.
Total area of ailerons	60 sq. ft.
Total area of elevator	28 sq. ft.
Rudder	17.4 sq. ft.
Stabilizer	43.4 sq. ft.
Fin	15.8 sq. ft.
Weights	
Weight empty	3253 lb.
Weight (max. useful load) (140 gal. gasoline)	2000 lb.
Normal Army useful load	1800 lb.
Normal Navy catapult (useful load)	1500 lb.
Total gross weight (full load)	5253 lb.
Maximum speed	124 m.p.h.
Stalling speed	50 m.p.h.
Climb in ten minutes	5500 ft.
Service ceiling	13000 ft.
Range at cruising speed (140 gal.)	650 mi.

To Aid Canadian Flying Clubs

IT HAS been recently announced that the Canadian Government, through the Department of National Defense will assist in the formation of flying clubs to promote civil aviation, by providing to each approved and incorporated flying club two light airplanes free of charge. These planes will be supplied on condition that adequate housing, repair and maintenance facilities are provided; a flying field established, and qualified instructor and licensed air engineer employed.

The agreement with each club will be for five years. If the demand for flying justifies additional equipment the Government may issue, each year after the first, one light airplane provided that the association supplies a similar machine of an approved type.

Trans-Atlantic Plane Forced Down 325 Mi. From the Azores

WHAT IN all probability will be the last New York to Paris aerial venture for this year came to an unsuccessful finish when the Stinson-Detroiter monoplane (Wright Whirlwind) "American Girl" piloted by George Haldeman, with Miss Ruth Elder as co-pilot, was forced down on open water some 325 mi. north-northeast of the Azores at 8:06 A.M. Wednesday, Oct. 12.

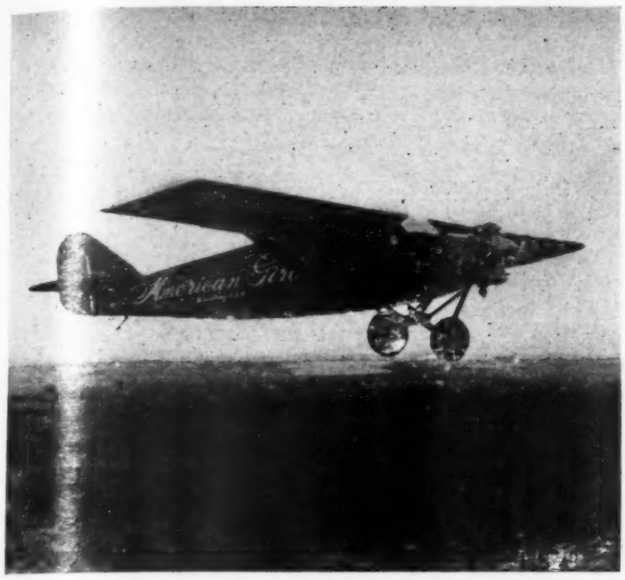
Took off With Gasoline Load of 520 Gal.

The plane which took off from Roosevelt Field, L. I., at 5:05 P.M. Monday, Oct. 10, with a gasoline load of 520 gal., had covered approximately 3000 mi. before engine trouble brought it to the water's surface. According to reports received in this country, when a forced landing seemed inevitable, Haldeman glided the plane to the water close by the Dutch tanker *Barendrecht* which was five days out from Rotterdam bound empty for Baytown, Tex. Hardly had Miss Elder and Haldeman been taken aboard when the American Girl burst into flames.

The only report of the trans-Atlantic plane having been sighted after its take off was received from the S.S. *American Banker* on Tuesday night. The report stated that the plane had been seen to pass over head at an altitude of about 1000 ft., its engine running well and the plane speeding in an easterly direction. The officers of the ship gave their position as being 400 mi. due east of New York.

Miss Ruth Elder (left) and George Haldeman in front of their Stinson-Detroiter monoplane (Whirlwind) "American Girl".

From that time until the *Barendrecht* flashed its rescue message the world waited in vain for news of the fliers. Owing to the fact that Haldeman had selected a course some distance south of that followed by Colonel Lindbergh, and one which would carry the plane over the path of several ocean liners, it was expected that they would be sighted on several occasions. And when no reports were forthcoming grave



The Stinson-Detroiter monoplane "American Girl" taking off from Roosevelt Field, L. I.

fears were felt for the safety of the pair. However, the failure of other vessels to sight the monoplane may have been due to Haldeman altering his course to avoid a storm area reported 2300 mi. east of New York. Or else instead of changing his course he flew over it at an altitude which concealed him from observers on passing ships.

According to the last report radioed by the captain of the *Barendrecht* the tanker had changed its course and was proceeding to the Azores where the fliers would be landed as soon as possible.

Approves Flying Definitions

WILLIAM P. MACCRACKEN, JR. assistant secretary of Commerce for Aeronautics recently gave official approval to the following nomenclature:

Aeronautics—The science and art pertaining to the flight of aircraft.

Aviation—The art of operating heavier-than-air craft.

Aerostation—The art of operating lighter-than-air craft.

Airport—An airport is a locality, either water or land, adapted for the landing or taking-off of aircraft and which provides facilities for shelter, supplies and repair of aircraft; or a place used regularly for the receiving or discharging of passengers or cargo by air.

Airway—An air route between air traffic centres, with landing facilities at intervals equipped with aids to air navigation and communication system for transmission of information pertaining to the operation of aircraft. The term "airway" may apply to an air route for either land planes or seaplanes, or both.

A Correction

ON PAGE 934 of the Oct. 17 issue of AVIATION there appeared an article entitled "Air Traffic in Italy During 1926" in which the city of Geneva was mentioned several times. Such was a typographical error and incorrect by some two hundred odd miles. The city referred to in each case was Genoa, Italy, and not the Swiss conference center.

Lieut. Irving A. Woodring Wins Mitchell Trophy Pursuit Race

THE MITCHELL Trophy pursuit plane race which has usually been held at the time of the National Air Races was flown this year at Dayton, O., on Oct. 12 in connection with the dedication of Wright Field. Fifteen planes participated in the race, all of them being Curtiss pursuit planes from Selfridge Field, Mich., and under the command of Maj. Thomas G. Lamphier. All fifteen planes started and finished but ten of them were disqualified; nine for cutting pylons and one for cutting inside of another on a corner. The race was won by Lieut. Irving A. Woodring, thereby proving that it pays to be honest.

Fly Nine Circuits of 13.96 Mi. Course

The race was held at the old Wilbur Wright Field and consisted of nine circuits of a 13.96 mi course. Odis Porter, official timer for the speedway races at Indianapolis, was the timer for the race, while the judges were C. D. Putnam, chief judge; F. J. Blose, C. W. Smith and Perlie Sagebiel. L. L. Custer and Russell Tompert assisted in the timing. George B. Smith was in charge of the starting of the event, while T. C. McMahon, of the technical data section Wright Field, was the starter. Due to the large number of planes disqualified the final results of the races were not announced for some time.

A high wind was blowing at the time and the whole race was flown very close to the ground. Accurate turning around the pylons was difficult and every pilot adopted different tactics. The fastest lap was made by Lieut. Kiellor at a speed of 169 m.p.h. Had there been less wind better speeds would probably have been made.

The winner, Lieutenant Woodring showed an average speed of 158.968 m.p.h. He was piloting plane No. 3.

Lieut. E. H. Lawson, piloting plane No. 15, was second in the race, averaging 158.904 m.p.h., and Lieut. K. J. Gregg piloting plane No. 2 was third, with an average of 158.438 m.p.h.

Lieut. W. H. Doolittle flying plane No. 14 was fourth, with an average speed of 158.077 m.p.h., and Lieut. D. B. Hovey was fifth, in plane No. 8, with an average of 156.992 m.p.h.

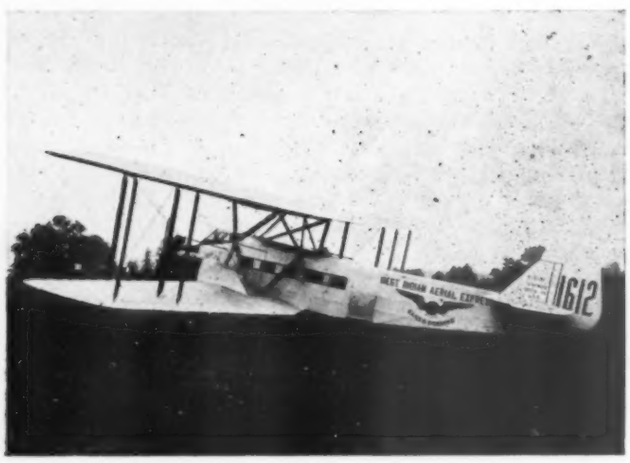
Pilots disqualified by the judges were Maj. Thomas G. Lamphier; Lieuts. Victor H. Strahm, L. C. Mallory, C. S. Irvine, Capt. D. B. Dixon, Lieuts. Russell Kiellor, W. C. Cornelius and J. J. Williams, and Capts. Frank H. Pritchard and St. Clair Streett.

Los Angeles Installs Beacon

WHEN COLONEL Lindbergh and his "Spirit of St. Louis" arrived in Los Angeles recently, he was welcomed with not only the usual cheering multitudes, but also with a new beacon light. The beacon, flashing a royal welcome and pointing the way to the airport, has been installed on Los Angeles City Hall. "Lindbergh Beacon" is the standard General Electric 24-inch revolving type, with a 900-watt, 30-volt incandescent lamp, giving a beam candlepower of 8,000,000. The 30-volt current is supplied through a transformer connected to the 110-volt commercial power lines. It is also equipped with an automatic lamp changer, a device which upon the failure of one lamp, automatically puts in place another similar lamp. The beacon is equipped with a flashing mechanism which can be used to produce the characteristic flashing signals sent out by the course lights on the airways.

Keystone Pathfinder Transport On West Indian Passenger Line

THE WEST INDIAN AERIAL EXPRESS is about to start operation of a passenger, mail and express service that will include Santiago de Cuba, San Juan, Porto Rico, Santo Domingo City, Port au Prince, Haiti, and Havana. The headquarters of the company will be at Santo Domingo City. Two passenger planes, making a total of six for the line, were recently at Curtiss Field, L. I., before taking off for Santo Domingo City. One of the planes is a Keystone Pathfinder, the "Santa Maria", a ten passenger biplane powered with three Wright Whirlwind engines. It will be in charge of Pilot Basil L. Rowe, while the other, a Fairchild monoplane, powered with a single Wright Whirlwind will have Cy Caldwell as pilot.



The Keystone Pathfinder, model K-47A, 10 passenger transport plane is of the same type as the "American Legion" in which Lieut. Comdr. Noel Davis was killed. The two outboard engines are mounted on the upper surface of the lower wing in carefully streamlined nacelles. It has a chrome molybdenum steel tube fuselage welded into a Warren truss with no cross wires. The wings are of wood with box spars and Warren truss ribs. The plane is equipped to carry all types of loads having an adjustable stabilizer. It is fitted with an oleo shock absorber on both the landing gear and the tail skid making taxiing very easy on the occupants of the plane.

The pilot sits below the leading edge of the upper wing behind the center engine. He is provided with both an adjustable seat and adjustable rudder bar so that they can be easily changed to accommodate pilots of different stature. The cockpit, which is provided with dual side by side control, is enclosed by a removeable transparent cover that not only affords excellent vision but also serves as an emergency exit.

The cabin, behind the cockpit, is finished in gray velour and dark blue leather with 10 wicker chairs fastened to the floor. (On occasion two extra people can be carried seated on stools). Excellent vision and ventilation is provided by ten sliding glass windows at the sides. The cabin is insulated by Balsam wool. At the rear of the cabin are two large doors, one on each side. Portable steps are carried that can be drawn inside when in flight.

Behind the cabin is a compartment that is used both as a mail compartment and as a lavatory.

The general specifications of the Keystone Pathfinder, model K-47A are as follows:

Length	44 ft. 4 in.
Span, both wings	66 ft. 6 in.
Chord of both wings tapered	7 ft. to 10 ft. 6 in.
Total wing area	1150 sq. ft.
Airfoil	U.S.A.45 modified
Weight empty	6536 lb.
Useful load	
crew of two	360 lb.
passengers, ten	1800 lb.
mail	300 lb.
	2460 lb.
300 gal. gasoline	1800 lb.
30 gal. of oil	225 lb.
	2025 lb.
Total useful load	4485 lb.
Total weight	10,841 lb.
Normal range	500 mi.
Maximum speed	112 m.p.h.
Minimum speed	57 m.p.h.
Climb at ground	570 f.p.m.

To Maintain Two Way Schedule

AN ORAL report by the Post Office Department states airplanes carrying mail between Havana and Key West will maintain a daily northbound and southbound schedule. The allotted flying time between the two points is one hour and ten minutes as against six and a half hours by steamship. The southbound trip has been so scheduled as to connect with railroad connections between Key West and New York City.

The daily flying schedule follows:

Leave Key West	7:30 A.M.
Arrive Havana	8:40 P.M.
Leave Havana	5:00 P.M.
Arrive Key West	6:10 P.M.

Look Pleasant, Please

B. F. Mahoney (left) president of B. F. Mahoney Aircraft Corp., San Diego, Calif., and "Eddie" Stinson, president of Stinson Aircraft Corp., Northville, Mich., pose for the cameraman at Mahoney Field, San Diego, just after Stinson's arrival in his Stinson-Detroiter monoplane while on the Pathfinding Tour for the 1928 National Reliability Tour.

French Airmen Reach Brazil

AS AVIATION goes to press word is received that Dieudonne Costes and Lieut. Joseph LeBrix have arrived at Rio de Janeiro, Brazil, en route from Paris to Buenos Aires, Argentina. They left Le Bourget Airport at Paris on Oct. 10 at 9:43 A.M. (Paris time) and arrived at St. Louis, Senegal, at 11:10 A.M. on Oct. 11 making a flight of about 2,700 mi. in 25 hr. 27 min. averaging 106 m.p.h. Their Breguet plane is powered with a 500 hp. Hispano Suiza water cooled engine.

The first lap of their journey was the longest planned. They carried less gasoline and oil than they would have taken for a flight to New York, but the performance of the plane seems to indicate that with good weather these two might have been the first to make the east to west Atlantic flight.

Recovered Lost Time During Night

Across Spain they lost time, reaching the African coast at Casablanca French Morocco, at 9:40 P.M. Oct. 10, an hour late on their schedule. Passing over Casablanca, they followed the coast, and wireless messages from them were picked up at Cape Juby at 4:30 A.M. and at Port Etienne at 8:15 A.M. These times showed that during the night they did more than recover the lost time. At St. Louis they were met by mechanics from both the Hispano Suiza and Breguet companies. However, they were forced to remain there for a few days due to rains and wet state of the ground.

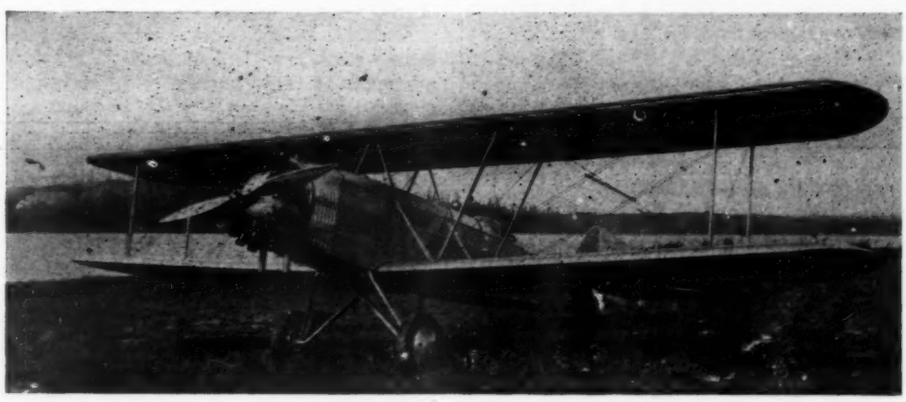
On the morning of Oct. 14 they took off from St. Louis, Senegal, arriving at Port Natal, Brazil, that night at 11:40 P.M. (local time). After a one day stop-over they took off for Rio de Janeiro landing at Caravellas, the airport of the Latecoere (French) Air Service Co. They made this stop, 200 to 300 mi. from their destination as they did not wish to land at Rio de Janeiro at night.

The plane, the "Nungesser-Coli", is the same Breguet 19 plane that some time ago established two long distance records on flights from Paris to Omsk and from Paris to Djask, distances of 3,350 mi. and 2,580 mi. respectively. Before the present flight was started the plane was recovered, inspected and re-equipped for the trip. The Breguet 19 was described in the Sept. 12 issue of AVIATION, page 590.

To Hold Plane Design Contest

FOR THE academic year of 1927-1928 prizes amounting to $400 are offered to students of the Daniel Guggenheim School of Aeronautics competing in the "Sherman M. Fairchild Plane Design Competition". The competition is open to all senior and graduate students who have not previously entered in such competition. The contest is for the design of a closed cabin monoplane equipped with a Fairchild-Caminez engine for passenger carrier and air mail feeder line duty, meeting all of the requirements of the Air Commerce Regulations of the Department of Commerce. It is specified that the plane must carry at least three passengers in addition to the pilot.

As in the past contest the judges will be Capt. Holden C. Richardson, U.S.N., Maj. Leslie Mac Dill, U.S.A. and Grover C. Loening. Last year the prizes amounted to $300, but this year the amount has been raised to $400; $200 first prize; $125 second prize and $75 third prize. The winners of the last contest were Frederic Jewett and Lieut. Ivan Moorman tied for first prize; M. Urtis, second prize; and Juan A. Azcarate, third prize.



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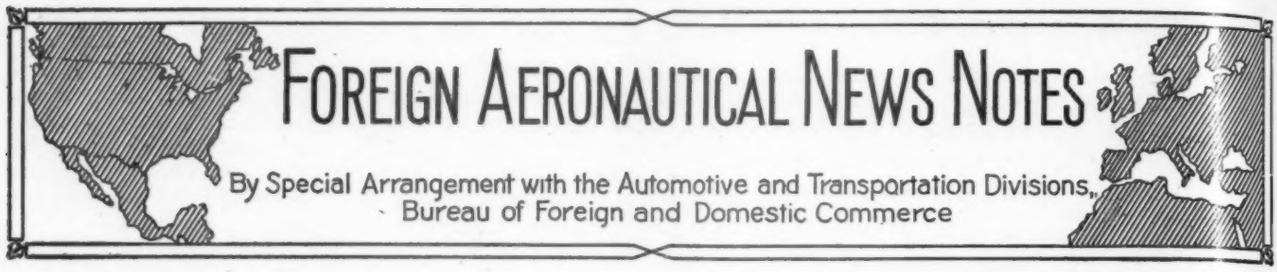
FOREIGN AERONAUTICAL NEWS NOTES
By Special Arrangement with the Automotive and Transportation Divisions,
Bureau of Foreign and Domestic Commerce

Abolition of Visas Recommended

Delegates representing 23 air service companies in the International Air Traffic Association, at a conference held in Basel, Switzerland, recently, passed a resolution requesting governments to abolish visas for pilots and other flying personnel whose arrival had been announced in advance.

The delegates also decided that radio stations under government control and available for use in managing air traffic should be placed under the same supervision as are the air services in the countries concerned. A plan something like the proposals of the International Chamber of Commerce on the uniform regulations for handling air mail was approved.

After much discussion regarding the publication of traffic and other operating statistics of air transportation companies, the majority of the delegates subscribed to the opinion that governments should not publish detailed reports for each company but brief, general information for the country as a whole, and a resolution instructing the secretary general to communicate this result to the governments concerned was passed. A recent decision of the Commission Internationale de la Navigation Aerienne which requires that after Jan. 1, 1928, each airplane carrying more than ten passengers must have on board a navigation officer was disapproved by the conference and the air transportation companies were requested to propose a temporary postponement of the new regulation.

The association was organized in 1920 and maintains its principal office at The Hague, Netherlands. The 23 member companies are in fifteen European countries and the organization's object is to organize air service on a uniform basis in all countries.

Budapest to Paris or Constantinople

Progress in aviation in Hungary during 1926 was confined chiefly to the further development of the existing air services between Budapest, Vienna and Belgrade. As a result it is not impossible to reach Paris or Constantinople from Budapest in one day.

A considerable step was also taken by the creation of a close union between the Hungarian Air Transportation Co., and the Deutsche Lufthansa Co., for the joint maintenance of the line from Budapest to Vienna. Budapest was thereby linked to the lines of the Deutsche Lufthansa, 10,570 mi. in length, and came into direct connection with Berlin, London, Amsterdam, Stockholm, and Moscow.

In addition to carrying on these well established lines, preliminary steps were taken toward the establishment of a regular service between Budapest and Graz, Austria. The importance of this line is augmented by the fact that it has a direct connection with Venice via Klagenfurt. By that route the journey from Budapest to Venice can be made in six hours.

The journey from Budapest to Vienna, is completed in 1 hr., 45 min., from Budapest to Belgrade in 2 hr., 30 min., and from Budapest to Graz in 2 hr., 20 min. The average speed of the airplanes is 86 m.p.h. The total number of airplanes in service in 1926 totaled 16 and the number of pilots eight. The service was open on the Budapest-Vienna line from Feb. 15 to Dec. 15, during which time on week days three flights were made and on Sundays one flight. On the Budapest-Belgrade line the service was open from Feb. 15 to Nov. 15. One flight daily was made on this line on week days only.

No accident occurred during the entire year, and only in 32 cases were forced landings necessary. The reason for forced landings in 56.3 per cent. of the cases was the bad weather and in 18.8 per cent., engine defects.

The regularity of the service is continually improving and it is only exceptional that a flight fixed in the itinerary is omitted. During 1926 only 41 flights of the total were omitted (or 2.1 per cent.) due in 95.1 per cent of the cases to bad weather and in 4.9 per cent. to engine defects. The number of flights increased by 265 to 1,954 in 1926.

During the year 2,718 persons were transported, an increase of 366, or 15.6 per cent. over 1925. Of the total, 30.5 per cent were Hungarians, 20.9 per cent Germans, 10.7 per cent Austrians, 4.9 per cent French, 4.6 per cent British, 2.7 per cent Yugoslavian, 2.7 per cent Czechoslovak, 1.7 per cent Roumanian and 8.2 per cent of other nationalities. 79.9 per cent of the passengers paid regular fares, 4.5 per cent reduced fares and 15.6 per cent traveled gratis.

French Manufacturers Found Schools

French airplane manufacturers have established aviation schools giving in most cases a first and second degree diploma upon completion of the courses. All candidates for the first degree must have had a minimum of 15 hr. of flying, during at least six weeks of instructions. Candidates for the second degree must have had at least 25 hr. of solo flying during a minimum of three months of preparation. In addition, they must pass a test on signals, and national and international air regulations. The certificate for the first degree is valid for 12 months and that for the second degree, six months. Both can be renewed for a similar period providing the pilot has had at least three hours of flying during the preceding semester.

Stockholm-Helsingfors-Reval Air Mail

Mail is carried by airplane directly from Stockholm to Helsingfors and Reval, as well as to Berlin, Leipzig, Danzig, and Moscow, and from Malmo to London, Amsterdam, Brussels, Paris, Prague, Vienna, and Bucharest. The extra postage on air mail to European countries is $0.0268 per 20 grammes .704 ounces. Mail for the United States may be forwarded by plane from the port of arrival into the interior at an extra charge of $0.20 per .704 ounces.

Propose French Subsidies

Compagnie Air Union Lignes d'Orient and the Compagnie A'erienne France-Algerie have taken up with the French Government the question of subsidies for proposed aviation transport routes from France to Syria, via Greece, and from Marseilles to Algiers.

German Flight Bureau Established

A federal bureau for flight protection has been established in Germany. The local airport wireless stations, with a view to safeguarding service all over the Reich, have been placed under the direction of an official body called the Central Bureau for Flight Protection, which in turn is subordinate to the Ministry of Transportation.

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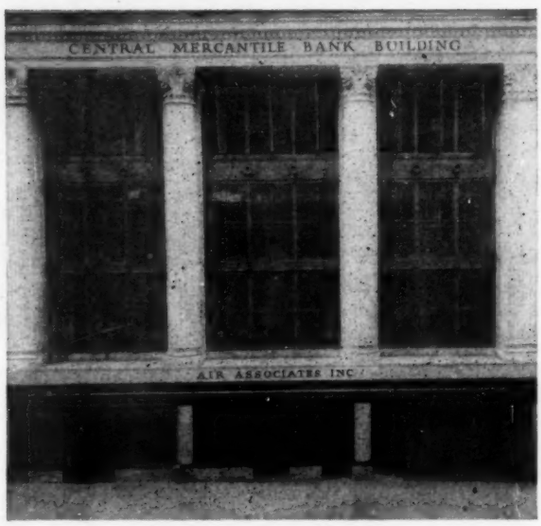


A Four Banks Corner
A Fifth Avenue Building
An Aviation Showroom

An Open Letter

to the Personnel of the Aircraft Industry

November 1, 1927

Gentlemen:

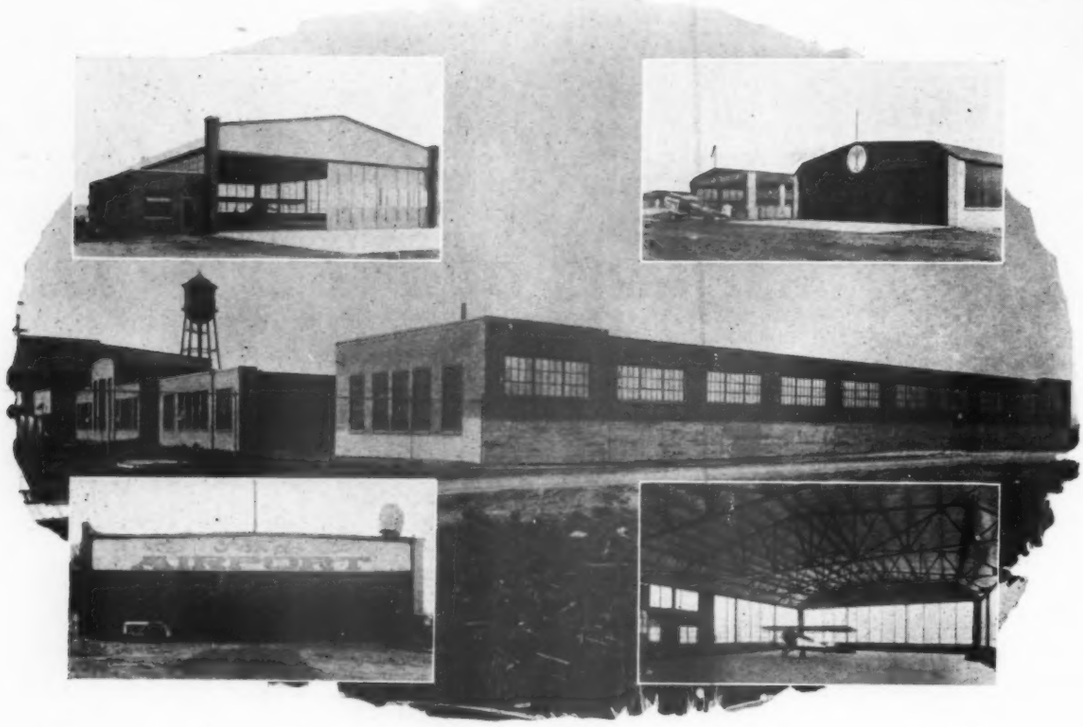
To those who look back a year with us to the first efforts of the "Air Age Associates"—to the few who encouraged our aims and welcomed our incorporation—to the many who responded to our letters about "a street-level service bureau"—this page carries both thanks and a promise: We have created a valuable task. If we succeed, our success will be yours.

Cordially,

Air Associates, Inc.

AIR ASSOCIATES, Inc.

535 Fifth Avenue, New York City



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A -27

AIRPORTS AND AIRWAYS

Chicago, Ill.

By Jerome Lederer

Chicago's airport plans and activities are as extensive as any in the world. Five municipal fields supplemented by five private fields provide ample accommodation for Chicago's present air transport service.

Chicago has outlined a definite policy in the design and construction of its airports, the ultimate objective being a large, central, supply and maintenance field from which airplanes are to hop to the nearby operating fields, to be loaded, and to which they return after depositing their loads. The function of this field is similar in nature to the functions of a car barn or railroad round-house.

The operating fields will be close to the heart of the city and will be laid out in the form of parks to harmonize with the surrounding locality and Chicago's wonderful boulevard system. Repair and maintenance work at these fields will be reduced to a minimum, all work of this nature being done at the large maintenance field. Travelers coming to Chicago by air will land in a park. The discouraging sight of wrecks waiting to be brought inside a hangar, or of mechanics vainly endeavoring to start an engine will be obliviated.

The large maintenance field has been in existence for several months. Several large hangars are already located there, the National Air Transport and Boeing Air Transport hangars being perhaps the most significant. This field is called the Municipal Airport and is located at 63rd Street and Cicero Ave., about ten miles southwest of the Loop, Chicago's business district.

This field has an area of 320 acres with three and a half miles of runways radiating in various directions. Each of the four corners of the field will have a 500 million c.p. B.B.T. floodlight. The direction of the wind will determine which of the four lights is to be used. The whole property belongs to the Chicago School Board, whose low rental fee enables a very moderate charge of $200 a year for hangar space. Final preparations are being made so that the field will be ready for operation within a month.

The Municipal Airport, however, does not interest Chicagoans so much as the proposed artificial "island" field to be located on the lake front about five minutes by automobile from the loop. This field will be situated near the famous Soldiers Field. The preliminary survey work on the "island" field has been completed and only legislative permission is necessary to continue. This permission is soon to be granted.

The plans call for an airport one square mile in area located on the lake between 12th and 16th Streets. It is to harmonize in appearance with the plans of the Chicago

FLYING or
Acrobatics on Shaky Plank?

When you use a pusher boat, you load your passengers from the bow. When you use a tractor Seaplane, you usually load them from the stern. Just back your Seaplane up to the beach, and your passengers can disembark from one float, while new ones can get in along the other one. This was done with Edo twin float installations and proved to be quite practical.

The sharp stern of a float built to war time traditions may look good, but it has very deep draft at the stern, and there is no way to get into the machine from the beach except by walking on a plank. It takes time and a crew to put the planks, it keeps the crew busy assisting the passengers. A large crew is needed, yet the turnover of passengers is slow.

The sharp stern is too narrow to walk on comfortably. Being narrow, it is also longer, and usually has rounded back, which aggravates the discomfort of a passenger getting in. In fact the procedure of getting in can be described as an acrobatic feat. It was all right for good sailors in war time, but it is not practical for passengers in peace time. Passengers want to fly, but they do not want to practice acrobatics.

The Edo floats are built for commercial service. They do not follow the war time traditions. Their decks have full width up to the sterns which are purposely left square. The wide sterns of Edo floats have very little draft. When the Seaplane is backed up to the beach, there is but a low step for passengers onto the flat and wide deck of Edo floats. The passengers need no assistance in getting in and out, and your business turnover will be large. Think of the comfort of passengers and you will have no worry about your business

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W. Mo. and E. Kan.—Bennett Eaglerock Sales Co., 228 W. 12th St., K. C., Mo.
Okla. & Tex. Pan.—Southwestern Airplane Sales Corp., Britton, Okla.
N. M. & Cen. Texas—Browning Airplane Sales, Wichita Falls, Tex.
Southern Texas—Marion P. Hair, P.O. Box 430, San Antonio, Tex.
So. Cal. and Ariz.—Aero Corporation of California, Western Ave., at 69th St., Los Angeles
Northern California—Jas. L. Mayberry, 1210 B'way, Fresno
W. Washington and W. Oregon—Story Eaglerock Sales, 409 No. Yakima, Tacoma, Wash.
Wyo., Mont. & W. Neb.—Wyoming Airways, Inc., Casper, Wyoming
S. Dak. & N. Dak.—Rapid Air Lines Inc., Rapid City, S. D.
W. Kan. and E. Neb.—C. E. Steele, Dodge City, Kansas
La.—Louisiana Airways, 1712 Pere Marquette Bldg., New Orleans
W. Va. and E. Ohio—Lyle H. Scott, 328 2nd St., Marietta, Ohio
Utah—Rocky Mountain Airways, Salt Lake City
Mississippi—Tri-States Airways, Bry Block, Memphis, Tenn.
Maryland and E. Pennsylvania—E. W. Robertson, Alexandria, Va.
So. Carolina—Errett Williams, Spartanburg, S. C.
Me., N. H., Vt., R. I. and Mass.—Massachusetts Airways Corp., 1597 Main St., Springfield, Mass
W. Penn. and N. E. Ohio—Lt. Jack P. Morris, Pittsburg Airport, Pittsburg, Pa.
Northeastern Indiana and Western Ohio—Indiana-Ohio Aero Corp., 203 Carroll Bldg., Ft. Wayne, Ind.
Nevada—Nevada Air Service, Reno, Nev.

ALEXANDER AIRCRAFT CO.

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Harbor Commission. Chicago's harbor is an affair of useful beauty which the new airport will enhance.

These two, the Municipal Airport at Cicero Avenue, and the island field are the most interesting of Chicago's municipal airport activities. However three other municipal fields are ready for use. These may be considered as supplemental fields to take care of extra heavy traffic or traffic which is not of a business nature, and also to act as intermediate landing fields for pilots.

The largest of these three fields is located in the Maywood Forest preserve directly across the road from the present Government air mail field and just south of the Yackey Checkerboard field. This clear level field of 280 acres was donated by the Cook County Commission. It is eleven miles west of the Loop. About ten miles north of this field is another donation, by this commission, of 140 acres of level land. This field is about fifteen miles northwest of the Loop. Still another donation by the Chicago Sanitary Board is a field of 60 acres, bounded on two sides by the drainage canal, six miles north and four miles west of the Loop at Foster and Bryn Mawr Aves. This completes the list of municipal fields.

Of the privately owned fields, the largest and most important is the immense 1,000 acre Ford Airport near Lansing, about 20 miles south and somewhat east of Chicago. In its large expanse, modern hangars, and complete equipment, it exemplifies the Ford method of doing things by doing them thoroughly. A Ford assembling plant located not far from the field receives much material from Detroit in the large Ford airplanes. This field will serve a huge industrial district. In fact the geographical center of this country's industries based on factory horsepower is only about thirty miles away.

Besides Ford's field there are the Yackey Checkerboard Field at Maywood with one 1200 ft. and one 900 ft. runway. This is about 11 mi. west of Chicago; Heath's 60 acre field on River Road; the Palwaukee Field at Palatine and Milwaukee Ave., about 15 mi. northwest of the city; Ashburn Field at 83rd and Cicero, a few miles south of the Municipal Airport, one square mile in area (this is where the Laird airplanes are made); and the fifty acre field of Russell Mossman at 95th and Western, about 13 mi. southwest of the city. There are a few other small fields around Chicago and new ones are being planned. It is therefore not venturesome to say that Chicago is very well supplied with aviation fields, and she may well boast that her airport plans and activities are as extensive as any in the world.

As a gesture of appreciation and admiration to Colonel Lindbergh, Chicago will erect a huge Lindbergh memorial beacon. An enormous shaft of beautiful design will be surmounted by a two billion c.p. light donated for the purpose by the Sperry Gyroscope Company.

Boston, Mass.

By Daniel Rochford

Something new in aviation is scheduled for Boston the night of Monday Oct. 24 when a Vocational Conference in Aviation is to be held in the library of the Boston Chamber of Commerce at 8 P.M. Speakers engaged in all forms of professional flying and aeronautics will outline the present pay scales, work, and probable future opportunities of their type of flying activity. The purpose of the conference is to enable those attending to decide whether there is "anything in aviation for me" as a vocation or avocation. The conference is being sponsored by Air Service of New England, Inc. of Boston.

The aviation exposition held in Mechanics Building, Boston, resulted in many new students enrolling for flying courses. Two Chinese students taking courses at the Massachusetts

Institute of Technology signed up with the Boston Airport Corporation and started their flying forthwith. They are Chiah Yang Shih, and Shih Cho Wang. Another recruit to the ranks of women fliers is Miss Joan Fay. She is also studying with the Airport Corporation. Miss Amelia Earhart, who qualified a few years ago for an F.A.I. license, is flying now with the pilots of the Dennison Company and expects to requalify for license.

Squantum Naval Air Station was commended by Rear Admiral William A. Moffatt for the efficiency of three Wright Whirlwind engines at the station. One J-4 ran 408 hr.; a J-4 A ran 494 hr.; and another J-4 A totaled 618 hr. flying time. These three engines were the original Whirlwinds sent to Squantum. They have been used to train students and in various coastal missions of the Navy powering Vought UOs.

Several Boston planes flew to Providence recently in a sealed-time "race". The Providence group sponsoring the Boston-Providence race decided to eliminate any full-throttle speed contest because of the scarcity of landing fields on the route.

New Orleans, La.

By Theodore R. Liuzza

With the idea of improving the Alvin Callender flying field of the New Orleans airport, a committee representing several civic organizations recently held a meeting, sponsored by the Young Men's Business Club, to discuss plans for raising the necessary funds. Although several methods were suggested, no definite plan was decided, committees being appointed to work out details of organization for a future date.

Adjutant-General Toombs, representing the Airport Commission, outlined the necessary improvements. The outstanding need, according to General Toombs, is the clearing of a tract 1100 ft. square at the upper right corner of the T-shaped field.

The placing of flood lights for night landings, the building of more hangars and an efficient drainage system also were advocted by General Toombs. The area now wooded prevents safe landings in any direction except due north and south and due east and west, he stated, pointing out that quartering landings may be made by clearing the remainder of Callender Field.

Those attending the meeting in addition to General Toombs were W. L. S. Gordon, postmaster of New Orleans; Charles A. Zatarain, president of the Young Men's Business Club and chairman of the committee; Robert Moore, Jr., and I. B. Tribkin of the Aero Club of Louisiana; and F. E. Bourgeois, A. Adair Watters and Roger E. Simmons, of the business club. This special group represented a larger body acting for all civic organizations.

Bids for lighting the second section of the New York-New Orleans airway, from Richmond to Atlanta, and Atlanta to New Orleans, will be opened in a few days by the Department of Commerce, it was announced in Washington.

The plans of the Department of Commerce call for 2,000,000 candle power electric lights stationed at intervals of 10 miles along the route. Every effort is being made to have the lights installed at the earliest date, so that an early inauguration of the air mail service will be insured.

The New Orleans-Atlanta leg of the airway will be the last to be lighted the department said because plans for this section call for only daylight flying.

W. W. DeWald of the New Orleans-Gulf Coast Airways announced recently that service had been discontinued on the route and would not be resumed until November. Decrease in traffic was attributed as the cause of the suspension. The firm operates a fleet of Fokker planes between New Orleans, Edgewater Gulf, Pass Christian, Gulfport and Biloxi, on the Mississippi Gulf coast.

A flying field has been established near Kenner, La., about eight or nine miles from New Orleans. This is an excellent field and is located on the Jefferson Highway, one of the finest roads in the state of Louisiana. There are about eight planes at the field.

Plans are under way for the organization of a new model

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The Leader of the Top Flight Class

SPECIFICATIONS

Weight empty .....2100 lbs.
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Length ..... 28 feet
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Horsepower .....200 at 1800 R.P.M.
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Self Starter, Brakes, Metal Propeller, Compass, Air Speed Indicator, Navigation Lights, Tachometer, Altimeter, Clock, Fire Extinguisher, Fuel, Oil Pressure and Oil Temperature Gauges, Air Corps Throttles, Stainer and Fuel Valve.

The Airsedan is not equipped with adjustable stabilizer. Exceptional stability and balance under varying loads make this feature unnecessary.

Price $12,500
Flyaway, Our Field

BUHL AIRCRAFT CO.
Marysville, Michigan

airplane club in New Orleans. The city boasted of one of the largest and finest clubs of its kind in America but it was disbanded several months ago due to the fact that the members had outgrown the age of experimenting with models. Several of the members have "pitched in", purchased a Jenny and are learning to fly. The club, it was learned, will be sponsored by *The Junior Item-Tribune*, the boys' and girls' department of *The New Orleans Item* and *The Morning Tribune*.

Atlanta, Ga.

By John K. Outley, Jr.

Candler Field will have its first enclosed cabin plane, a Ryan monoplane, early this fall, it has been learned through the purchaser, C. P. Whitehead, of Atlanta.

Although the plane will be owned by Mr. Whitehead it will be operated for taxi business at Candler Field by Beeler Blevins, local pilot.

Atlanta had an aviation show in connection with the annual radio and electrical exposition staged Oct. 17-22, at the city auditorium.

Entries were made by the Alexander Aircraft Corporation, of Denver, and the Advance Aircraft Corporation, of Troy, Ohio, in addition to local entries.

One of the local entries was an Atlanta-built plane which was dismantled and assembled daily by students of the Stone Mountain Flying School.

W. T. Mattox, of the Atlanta chapter of N.A.A., was acting director of the aviation show.

Robbinsdale, Minn.

By H. A. Lindbergh

There are a number of problems that arise as aviation activities develop and one that the owners of planes will have to contend with, is that of stealing.

"Doc" Ellis, a pilot at the Robbinsdale Field, made a contract with a private detective agency to protect his machines from theft.

Thieves have been warned by a sign on the planes that they are protected by a detective agency and "any theft will be prosecuted to the full extent of the law".

Two planes have been stolen from this field during this year, while one has disappeared from the Wold-Chamberlain Field in Minneapolis, so precautions were taken to prevent them being A W O L, especially as it is a difficult proposition to secure delivery of planes when wanted.

Omaha, Neb.

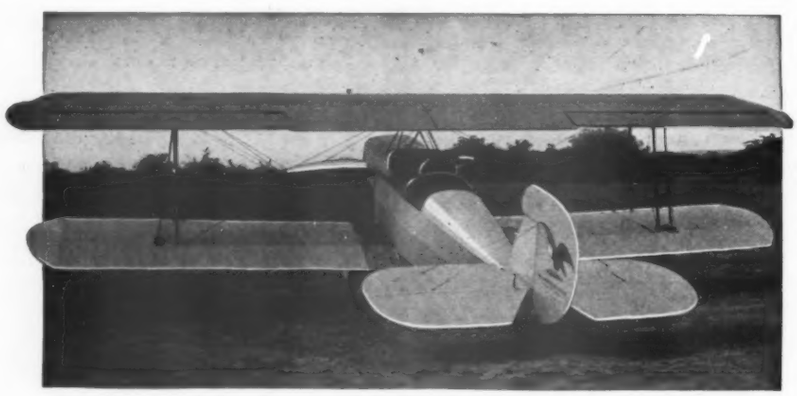
Omaha has experimented with various landing fields, but at present the city has acquired through purchase, at an expenditure of approximately $73,000., a 208 acre tract of land that will be a desirable airport when present plans are carried out.

When arriving at the field by plane, the place to land can readily be located as it is situated between Carter Lake and the Missouri River, with several of the larger buildings being marked according to regulations so as to be plainly visible from above.

If the field is to be reached by car, then the directions to be followed from the down-town section are plainly marked on the light and telephone posts and lead out on a fine boulevard drive to the destination in about 10 min. driving, or the car-line will bring a person within five blocks of the field.

As it is desired to make this proposed airport one of which Omaha can be proud, the American Legion and the local branch of the N.A.A. conducted a drive during which $31,000 was raised. This sum will be used in constructing a hangar that will serve as a nucleus for others.

The local branch of the N.A.A. of which Earl Kiplinger is



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AMERICAN EAGLE AIRCRAFT CORPORATION

2330 HARRISON STREET, KANSAS CITY, MISSOURI

president and Lewis Thoelecke secretary, is an active organization here and is taking an important part in the growth of Omaha as a progressive aviation city.

W. A. Ellis, who is at the head of the Aerial Transportation Committee of the Chamber of Commerce, is keeping in constant touch with the most up-to-date methods pertaining to aviation, so any proposed development of which he will have any control will be assured of that which has been approved of by the leaders.

The Boeing Air Transport Inc., which has been operating the Chicago-Frisco Mail Service since the first of July, is located at the Fort Crook Field, which is about a half hour ride from town.

It is enjoying a good passenger carrying business and it is often necessary to run additional planes to accommodate all those desiring to travel by air.

The American Railway Express reports an increase in the use of this new branch of its service.

C. E. Steele recently arrived from the factory in Denver, with a combination wing Eaglerock, for which he has the agency.

He was located at Dodge City, Kan. up to June 5 of this year, but his equipment has been moved to the new municipal field where he is centering his activities.

There are 18 students receiving flying instructions on the Eaglerock and this list will continue to grow according to present indications.

John (Jack) F. Kirk is selling the Waco, of which there are two on the field, as well as giving flying instructions to the several students that he has secured.

Maynard, Minn.

Anyone who has tried to get early delivery on a new production light commercial plane knows that it is a difficult proposition, so G. O. Imm of the Northern Airport, who has the Waco agency for Minnesota, is trying his best to please those who desire to own the new Ten.

Some of the planes ordered will be received during the winter months, so the purchasers will have them for early spring use.

The inclement weather has hindered operations somewhat, but the students in training have been receiving their instructions as usual.

Jimmy Zarth is barnstorming throughout the state as well as demonstrating the Ten, while a recently purchased Nine is being used for student instruction at Maynard.

An air derby was held at Grove City during the middle of October and both planes were on hand to serve the interested people.

A monoplane, that was recently built there, was demonstrated during the two day program.

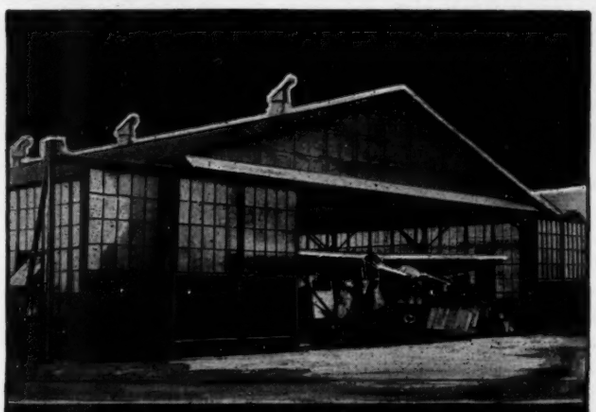
St. Joseph, Mo.

The St. Joseph Mid-American Airport, so named as it is located near the geographical center of the country, has a number of features that places it among the leading fields of America, when completeness of equipment and other points of advantage are considered.

When traveling by air to this airport, there are several means of identifying it from above.

On top of the gas holder of the St. Joseph Gas Co. is painted "St. Joseph" in letters twelve feet high by three feet wide, in the color combination specified by the Department of Commerce (orange letters on a black background), with a fifty foot arrow running through the name and pointing in the direction of the airport.

The field is marked with a 100 ft. landing circle with a four foot rim, in which is located a cross having arms that extend



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for all airport requirements and for every need of the Airplane Industry.

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Length *Width* *Height*

☐ Please send Descriptive Folder.

Name_____

Address_____

twenty-five feet from the center in east-west and north-south directions.

The name "St. Joseph" is imbedded flush with the field in large letters of cement, near one corner of this airport and together with the Missouri River as the southern boundary, this field can readily be located from the air.

On landing, which can be done safely in any kind of weather on this 180 acre field, the plane can be serviced with gasoline, water or oil and if any repairing is necessary, then licensed mechanics are available with completely equipped shops in which to do the work.

A safe landing can be made after dark as this airport is equipped with boundary and flood lights. An emergency switch that turns on all lights is located outside the large hangar, while the control board for the individual lights at the field is housed within. The revolving beacon on Wyeth Park hill, which has been seen for about one hundred forty miles is a good guide for night fliers. The city has expended approximately $140,000 on this airport, and prides itself on the fact that all is paid for, including the equipment.

The National Air Transport, Inc. is using the west side of the steel hangar (80 x 120 ft.), in which they are at present overhauling the Liberty engined Carrier Pigeons used on the contract air mail route between Chicago and Dallas. Additional Travel Air monoplanes are in service while the Pigeons are being reconditioned.

The east side of the hangar is rented to commercial planes at a nominal sum, as St. Joseph is interested in encouraging aviation activities as much as possible.

Student instruction at this field is given on a Standard training plane owned by Orville Brown, with Joseph Lawrence and Page MacPhee as instructors. As the center of town is only three miles distant, it can be quickly and conveniently reached by way of a paved road leading from the field.

St. Joseph is also the location of the Bird Wing Commercial Aircraft Co., which will begin production on a 3-place dual control biplane with an OX-5 engine.

The Bird Wing Commercial Aircraft Co. plans to establish a flying school that will instruct the student in the design, construction and control of a plane as well as training him in the fundamentals of aviation so when he leaves he will have acquired knowledge that will enable him to more ably determine the branch of aviation that most appeals to him.

Springfield, Mass.

By Charles Hanson Gale

Massachusetts Airways of Springfield has announced an extension of its service. It will offer complete aerial photographic service and has also announced that its base of operations will be shifted soon to the new Barnes Airport at Westfield. The company will move over there as soon as the hangar, being erected by the combined Holyoke and Westfield chambers of commerce, has been completed.

The company will manage the field in return for the exclusive rights there for passenger carrying and other commercial business. The field is said to be in fine shape after a summer of enlarging and resurfacing. The field has been used by many pilots in the past and has been the scene of several air meets of large proportions. It has excellent drainage, water, light and railroad siding facilities. Telephone service is also available.

The company has also announced that it will operate at Ludlow, a small mill town east of Springfield, every Saturday. Springfield will still be the headquarters of the company, it was stated, but the planes will be housed and repaired at Westfield.

Lieut. Albert Glode has announced his plans for a ground school course for the winter which would also include a flying school in the spring. Lieutenant Glode flew many hours over the lines during the war as a spotter and photographer for artillery. He received his pilot rating from the French school at Tours. A ground school course has been started

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The Stearman Aircraft Co., Wichita, Kansas

by Lieut. Eliza Hall here. He has assembled wings and parts and an OX5 for instruction purposes.

A New England conference on flying clubs has met with the approval of the directors of the Flying Club of Springfield, Mass., Inc., and arrangements for the meeting are being planned for some time in November. This conference will serve to organize the flying club interests in this section of the country into something of the nature of a New England Association of Flying Clubs for the benefits to be derived from a coordinating agency.

The Springfield Club feels that such an organization is particularly appropriate at the present stage of flying club development on account of the lack of precedent and information for the aid of new clubs. This conference will permit a collective attempt to face the problems of organization, finance and operation and should set up machinery to assist in the general promotion of flying club activities in New England.

The date of the conference has not been determined but it will probably be held the day after the New England Council convention here, on Nov. 17 and 18. The conference would be a single day or possibly a week-end affair and would be held on Saturday, Nov. 19, if it were decided to associate it with the above mentioned convention.

A large number of those known by the Springfield club to be interested in the project have been notified or invited. The conference is open to all interested in flying clubs both in New England and outside and those wishing to attend are cordially invited to communicate with the writer at the Springfield Republican office.

The tentative program includes papers by those who have had flying club organization and operation experience with emphasis placed on question periods. Several experts in the aeronautical field will probably be secured to discuss particular problems such as insurance, financing, operation, etc.

Pilot Fred J. Boots of the Massachusetts Airways Company here took first place in a commercial airplane race at the recent dedication meet at the Claremont, N. H., Airport. Boots flew an Eaglerock and it was said he won the 25 mi. race around two mountains by a large margin.

Cincinnati, Ohio

By R. Alvin Hug

Hugh Watson, operator of Watson Airport and distributor for Travel Air planes, sold two OX5 jobs recently. The buyers were Stockart and Barnett, of Ft. Wayne, Ind., and William E. Leedy, of Youngstown, Ohio. As Leedy purchased Watson's demonstrator there was nothing left for him to do but order another OX5 plane from the factory. This is expected to arrive in a week or two.

George Quillen, instructor at Watson Airport, is being kept busy these days giving instruction flights to the largest number of students ever on the roster.

Hugh Watson's new Whirlwind Travel Air was flown in from the west by Howard Rinehart. This plane was entered in the New York to Spokane air race, but because of delays due to bad weather it could not reach New York in time for the start.

A clever innovation, perfected by Parks Watson, was tried out at the field recently. It consisted of a three-foot radio loud speaker mounted on a stand in the center of the crowd of spectators, and connected with the main office by wires. In this way announcements could be made to the large crowd far more clearly and easily than by the megaphone system formerly used.

A great deal of night flying has been done at the Watson Airport since the installation of flood lights and boundary lights during the summer. Besides these lights there is a large G-E beacon light mounted on a 50-foot pole which is

An Esline constructed, three to six place hangar at Maitland Field, Milwaukee. A machine shop is being built alongside this hangar at the present time.

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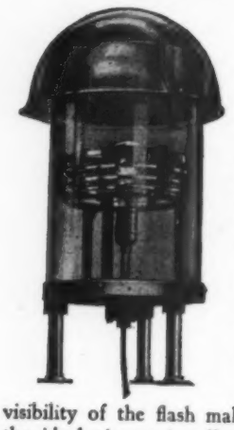

should be installed on every airport.

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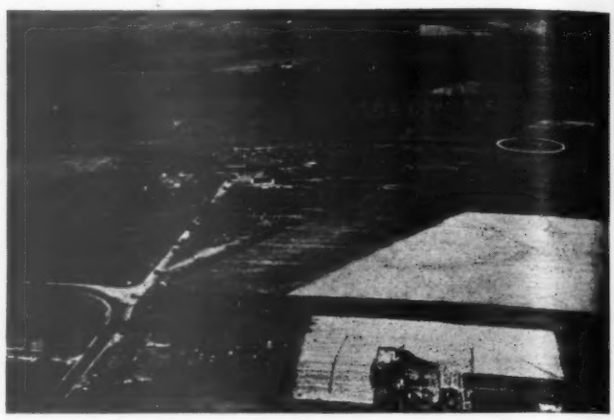
visible for many miles. The usual winter improvements have begun at the airport and a large part of it is being plowed and rolled in order to provide a perfectly level field. The runway in the center of the field will be lengthened and improved. A new hangar to take care of the increased number of planes is expected to be erected before spring.

The Embry-Riddle Company at Lunken Airport reports a very good fall business. The passenger-carrying business has held up quite well considering the cooler weather, and a large number of embryo pilots are receiving instructions from Raymond Harris.

The members of the Cincinnati Business Men's Club indulged in a novel pastime when they staged an "aerial bull-fight" at their outing at the Zoological gardens recently. A monster bull was outlined in white on the ground and selected members of the club attempted to "bomb" the "animal" with baseballs while flying overhead in planes of the Embry-Riddle Company. T. Higbee Embry was declared winner when he scored a perfect shot.



Watson Airport, showing usual Sunday crowd.

Fred Davis, chief mechanic for the Embry-Riddle Company, was married here recently and gave his bride an aerial honeymoon. The couple hopped off from Lunken Airport for Long Point, Ill., where they will visit Mr. Davis' parents.

Charles E. Planck and Raymond Harris, both of the Embry-Riddle staff, have been broadcasting a series of aviation lectures from station WLW. The talks are given in dialogue form which makes them interesting as well as educational. Planck and Harris have also made many speeches before local civic clubs urging their listeners to vote in favor of the $500,000 city bond issue for the improvement of Lunken Airport.

H. F. Fulton, of the Fulton-Kruse Company, Franklin auto distributors of this city, is using the Ryan Brougham of the Embry-Riddle Company to reach dealers in nearby towns and interest them in the new Franklin "Airman" series. Both plane and auto have air cooled engines.

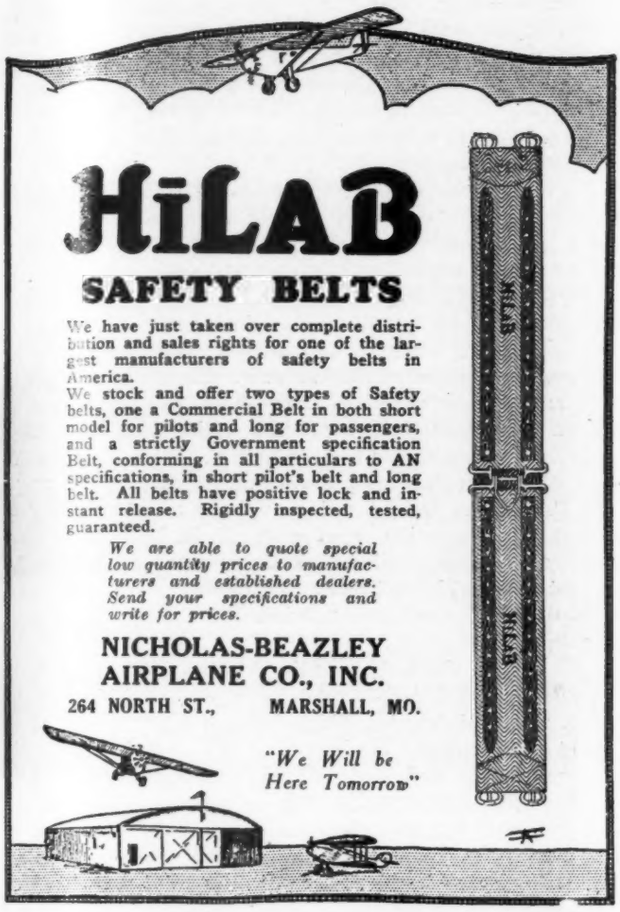
Wichita, Kan.

By H. E. Beverland

The Wichita Flying school will be kept open all winter to accommodate the large number of persons who have applied for instruction on operating a plane, it is announced by Peter Lewis, the school's head.

Pupils from all over the United States have been and still are enrolling. One came from Alaska recently for instruction. William (Young) Stribling, prizefighter, did not quite complete his course but announced he would return soon to do so.

An order for 25 airplanes has just been placed with the Swallow Airplane Manufacturing Company of this city by the Southern Airways Corporation of Dallas, Tex., according to



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an announcement made by Manager George Bassett.

Two of the planes, one powered with an OX-5 engine and the other with a 180 hp. Hispano Suiza are to be delivered during November. The remainder will be delivered at intervals during the next 12 months. The Southern Airways Corporation operates between Dallas, Houston, San Antonio and other Texas cities.

The factory also announced shipment of three OX-5 engine Swallow biplanes to the Springfield Air Lines, Springfield, Mass., this week. A Swallow biplane, using a 180 hp. Hispano Suiza engine, will be delivered soon to the Muncie Airport, Inc., Muncie, Ind.

Architects' plans for the Cessna-Roos Aircraft Company's new factory here have been accepted by company officials and construction will be started at once. The factory will be built on a 27 acre tract about three blocks from the company's present temporary workshop. The entire tract has been graded for use as an air field. Clyde V. Cessna, designer of the Cessna monoplane, is president of the company.

C. E. Ewer of Detroit will arrive soon to act as superintendent of the painting department. F. R. McConniga, formerly of Chicago, will be chief engineer and Romer G. Weyant will be chief test pilot. Victor Roos will be in charge of sales and production costs, while Mr. Cessna will be factory superintendent.

T. C. Gesell, who a few months ago took his first airplane ride as a student of L. L. (Pete) Lewis of the Wichita Flying school, this week watched his monoplane take the air for a perfect performance. Lewis was at the controls. A speed of 90 m.p.h. was made and it is said that with minor adjustments it will make 110 to 120 m.p.h.

The Wichita Flying School announces the purchase of a Travel Air biplane equipped with an OX-5 engine, to supplement the two Swallow biplanes now in use at the school. The plane, equipped to include facilities for night flying, will be delivered Nov. 6. The owners expect to have another Travel Air biplane of similar design in service by the first of the year.

Hartford, Conn.

By B. A. Pollet

The extent of local interest in aviation, may be determined by the active attendance of a class in aviation recently started in the class room of one of the high schools. This class, under the auspices of the American Legion, is being conducted by Serg. Cain, of the Connecticut National Air Squadron, and is open to the public, for a nominal charge to cover expenses. It is hoped to get a class of about thirty students, and, judging by the present enrollment, the maximum will soon be reached.

Lieut. "Steve" A. McClellan, sales engineer for the Pratt & Whitney Aircraft Co., flew the company's new plane, a standard model Boeing mail plane, from Salt Lake City to this airport. Lieutenant McClellan accepted delivery at Salt Lake City and made the trip to Hartford accompanied part of the distance by C. W. Deeds, treasurer of the company.

The plane, powered with a Pratt & Whitney Wasp, is to be used for experimental purposes and will be housed in the hangar now being built by the company on Brainard Field.

After numerous mishaps Hartford's entry in the Spokane-New York race, arrived at Brainard Field. The plane, a Hess Blue Bird, powered with an OX5 engine, dropped out of the race at West Prairie, Wis. Considerable time was lost getting parts, and Capt. Earl W. Fleet, and Serg. Harold H. Homan finally concluded that a new engine was needed. They were pursued by the "jinx" however, almost got into trouble landing in Chicago in a heavy wind, and carried wind, rain, and at one time snow to the very door of their

home-port. It is planned to give them an enthusiastic reception at the Hotel Bond, where they will be expected to entertain the visiting delegation with a story of their journey.

Lieut. H. W. Generous of the National Guard Air Squadron, has been appointed Deputy Commissioner of Aviation, attached to Commissioner Knox's office at Brainard Field. Lieutenant Generous is a graduate of Kelly Field and is eminently fitted for the work. He will assist in the supervision of aviation activity in the state and should prove a valuable asset to the commissioner's office.

UNITED STATES AIR FORCES

Army Officers to Examine Civilians

The Air Commerce Regulations issued by the Department of Commerce effective Dec. 31, 1926, require a special physical examination of applicants for aircraft pilot's license and at stated intervals thereafter. The Aeronautics Branch of the Department of Commerce has not a sufficient number of medical examiners and equipment to examine all applicants.

In view of this condition, the War Department has issued instructions to all corps area commanders for cooperation with the Department of Commerce, Army medical officers, qualified to perform the physical examination for flying, possessing the necessary equipment, and stationed where there are no authorized medical examiners of the Department of Commerce, will be available to examine civilian pilots when such examinations will not interfere with the performance of their military duties. Officers of the Medical Reserve Corps, qualified to give the physical examination for flying, will be permitted to use flight surgeon's examining equipment, installed in each corps area, to conduct examinations of civilian pilots.

In Hawaii, the Philippines and the Panama Canal Zone such examinations will be given upon the application of the civilian pilots in question. Within the limits of continental United States, examination of civilians, who are not reserve or National Guard Officers, will be limited to those who have been specifically authorized by the Bureau of Aeronautics, Department of Commerce, to appear before the surgeon in question.

Army Air Orders

First Lieut. Louis C. Simon, Jr., Air Corps, is retired from active service.

Sec. Lieut. Robert Dilger Johnston, Air Corps Res., Venice, Cal., to active duty at Fort Crocket, Tex., reverting to inactive status June 30, 1928.

Maj. Victor Clark Parker, Air Corps Res., Chicago, to active duty at Fairfield, reverting to inactive status Oct. 15.

Maj. Charles Martin Neubauer, Air Corps Res., New York City and First Lieut. Fred Weld Herman, Air Corps Res., Dayton, to active duty, Washington, D. C., reverting to inactive status Oct. 15.

Capt. Harry Mosley, Air Corps Res., Detroit and Capt. Robert R. Lee Murphy, Air Corps Res., Lexington, Ky., to active duty, Washington, reverting to inactive status Oct. 18.

Sec. Lieut. Elmer Edward Zimmer, Air Corps Res., Buffalo, to active duty with Air Corps procurement planning representative, that city, reverting to inactive status Oct. 30.

First Lieut. Ernst Abraham Longenecker, Air Corps Res., Wauwatosa, to active duty with Air Corps procurement planning representative, Buffalo, reverting to inactive status Oct. 15.

Sec. Lieut. Martin William Duffy, Air Corps Res., Cedar Rapids, to active duty Chicago, reverting to inactive status Oct. 15.

Sec. Lieut. Francis Edward Ashton, Air Corps Res., Chicago, to active duty with the Air Corps procurement planning representative, that city, reverting to inactive status Oct. 16.

Maj. Raymond Warren Kearney, Air Corps Res., Alameda, Cal., to active duty San Francisco, reverting to inactive status Oct. 15.

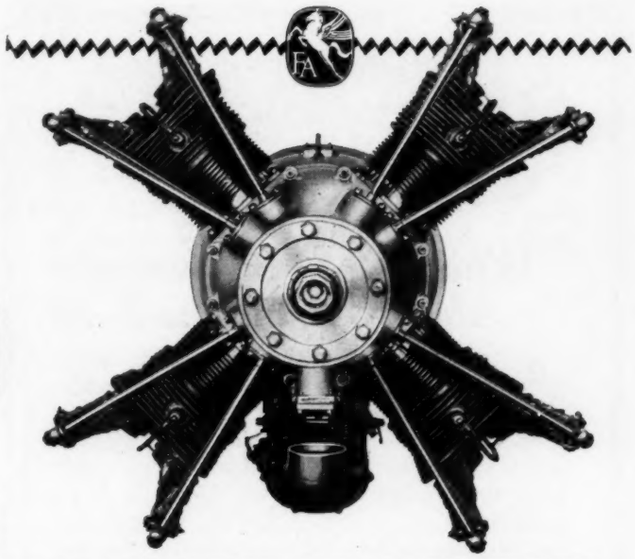
Sec. Lieut. Basil Duval Murray, Air Corps Res., Bedford, Va., and Sec. Lieut. David Amos Royer, Air Corps Res., Hollidayburg, Pa., to active duty Langley Field, reverting to inactive status Oct. 15.

First Lieut. John Macklem Perkins, Air Corps Res., Towanda, Pa., to active duty Langley Field, reverting to inactive status Oct. 29.

Maj. John Hawley Larned, Air Corps Res., Philadelphia, to active duty Langley Field, reverting to inactive status Dec. 12.

Sec. Lieut. Victor Emmanuel Showalter, Air Corps Res., Dayton, to Scott Field, reverting to inactive status Oct. 15.

First Lieut. Mac Short, Air Corps Res., Dayton, to active duty Wright Field, reverting to inactive status Oct. 29.



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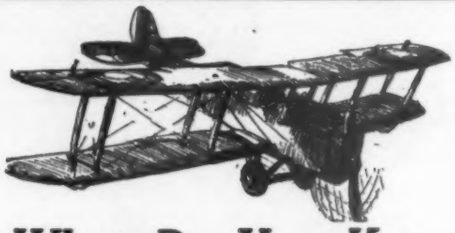

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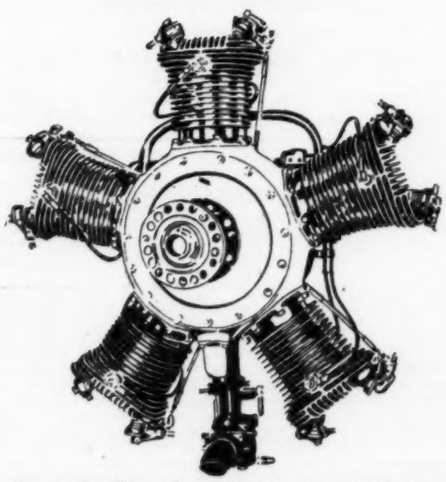

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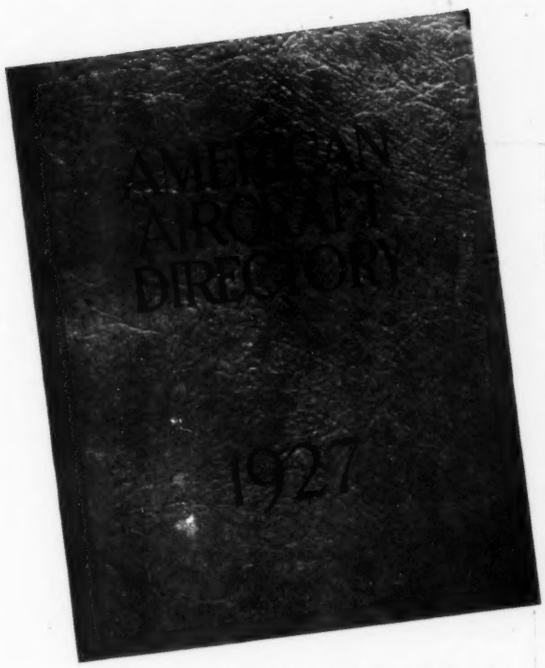

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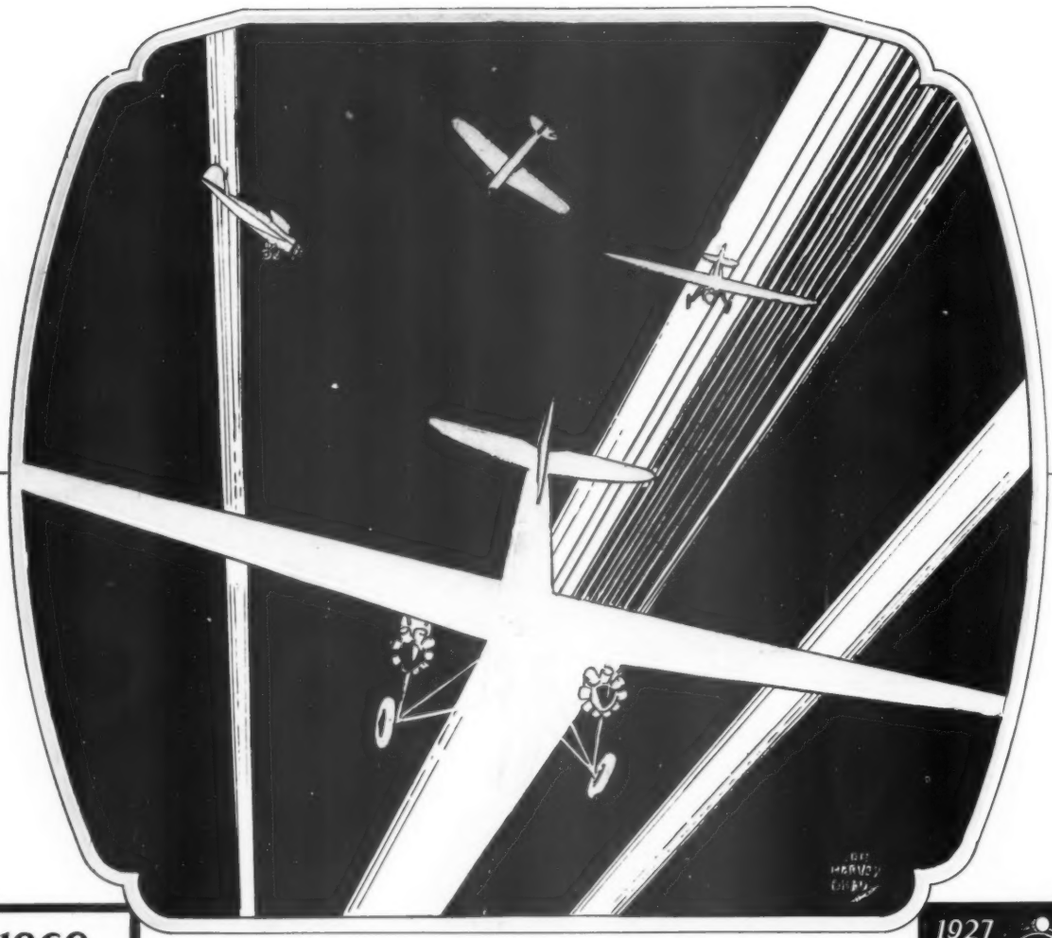

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